SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDED JUNE 30, 1926

WASHINGTON

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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., November 15, 1926.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ended June 30, 1926.

Very respectfully,

ALEXANDER WETMORE,
Assistant Secretary.

DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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STAFF OF THE UNITED STATES NATIONAL MUSEUM

[June 30, 1926]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, keeper *ex officio*.

ALEXANDER WETMORE, Assistant Secretary, Smithsonian Institution.

WILLIAM DEC. RAVENEL, Administrative Assistant to the Secretary.

SCIENTIFIC STAFF

DEPARTMENT OF ANTHROPOLOGY:

Walter Hough, head curator.

Division of Ethnology: Walter Hough, curator; H. W. Krieger, curator; H. B. Collins, jr., assistant curator; J. W. Fewkes, collaborator; Arthur P. Rice, collaborator.

Section of Musical Instruments; Hugo Worch, custodian.

Division of American Archeology: Neil M. Judd, curator; R. G. Paine, aid.

Division of Old World Archeology: I. M. Casanowicz, assistant curator.

Division of Physical Anthropology: Aleš Hrdlička, curator.

Collaborator in anthropology: George Grant MacCurdy.

Associates in historic archeology; Paul Haupt, Cyrus Adler.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, head curator; James E. Benedict, assistant curator.

Division of Mammals: Gerrit S. Miller, jr., curator.

Division of Birds: Robert Ridgway, curator; Charles W. Richmond, associate curator; J. H. Riley, aid; Bradshaw H. Swales, honorary assistant curator; Alexander Wetmore, custodian of alcoholic and skeleton collections; Edward J. Brown, collaborator; Casey A. Wood, collaborator.

Division of Reptiles and Batrachians: Leonhard Stejneger, curator; Doris M. Cochran, aid.

Division of Fishes: Barton A. Bean, assistant curator; E. D. Reid, aid.

Division of Insects: L. O. Howard, honorary curator; J. M. Aldrich, associate curator; William Schaus, honorary assistant curator; B. Preston Clark, collaborator.

Section of Hymenoptera: S. A. Rohwer, custodian; W. M. Mann, assistant custodian.

Section of Myriapoda: O. F. Cook, custodian.

Section of Diptera: J. M. Aldrich, in charge; Charles T. Greene, assistant custodian.

Section of Coleoptera: E. A. Schwarz, custodian; L. L. Buchanan, specialist for Casey collection of coleoptera.

Section of Lepidoptera: Harrison G. Dyar, custodian.

Section of Orthoptera: A. N. Caudell, custodian.

Section of Hemiptera: W. L. McAtee, acting custodian.

Section of forest tree beetles: A. D. Hopkins, custodian.

DEPARTMENT OF BIOLOGY—Continued.

Division of Marine Invertebrates: Waldo L. Schmitt, curator; C. R. Shoemaker, assistant curator; James O. Maloney, aid; H. K. Harring, custodian of the rotatoria; Mrs. Harriet Richardson Searle, collaborator; Max M. Ellis, collaborator; William H. Longley, collaborator.

Division of Mollusks: William H. Dall, honorary curator; Paul Bartsch, curator; William B. Marshall, assistant curator; Mary Breen, collaborator.

Section of Helminthological Collections: C. W. Stiles, custodian; M. C. Hall, assistant custodian.

Division of Echinoderms: Austin H. Clark, curator.

Division of Plants (National Herbarium): Frederick V. Coville, honorary curator; W. R. Maxon, associate curator; J. N. Rose, associate curator; P. C. Standley, associate curator; Emery C. Leonard, aid; Ellsworth P. Killip, aid; H. H. Bartlett, collaborator.

Section of Grasses: Albert S. Hitchcock, custodian.

Section of Cryptogamic Collections: O. F. Cook, assistant curator.

Section of Higher Algae: W. T. Swingle, custodian.

Section of Lower Fungi: D. G. Fairchild, custodian.

Section of Diatoms: Albert Mann, custodian.

Associates in Zoology: C. Hart Merriam, W. L. Abbott, Mary J. Rathbun, David Starr Jordan.

Associate Curator in Zoology: Hugh M. Smith.

Associate in Botany: John Donnell Smith.

Associate in Marine Sediments: T. Wayland Vaughan.

Collaborator in Zoology: Robert Sterling Clark.

DEPARTMENT OF GEOLOGY:

George P. Merrill, head curator.

Division of Physical and Chemical Geology (systematic and applied): George P. Merrill, curator; E. V. Shannon, assistant curator.

Division of Mineralogy and Petrology: F. W. Clarke, honorary curator; W. F. Foshag, assistant curator; Frank L. Hess, custodian of rare metals and rare earths.

Division of Stratigraphic Paleontology: R. S. Bassler, curator; Charles E. Resser, associate curator; Jessie G. Beach, aid.

Section of Invertebrate Paleontology: T. W. Stanton, custodian of Mesozoic collection; William H. Dall, associate curator of Cenozoic collection.

Section of Paleobotany: David White, associate curator; F. H. Knowlton, custodian of Mesozoic plants; Erwin R. Pohl, aid.

Division of Vertebrate Paleontology: Charles W. Gilmore, curator; James W. Gidley, assistant curator of mammalian fossils.

Associates in Paleontology: Frank Springer, E. O. Ulrich.

Associate in Petrology: Whitman Cross.

DEPARTMENT OF ARTS AND INDUSTRIES, AND DIVISION OF HISTORY:

William deC. Ravenel, director.

Divisions of Mineral and Mechanical Technology: Carl W. Mitman, curator; Paul E. Garber, assistant curator; F. A. Taylor, aid; Chester G. Gilbert, honorary curator of mineral technology.

Division of Textiles: Frederick L. Lewton, curator; Mrs. E. W. Rosson, aid.

Section of Wood Technology: William N. Watkins, assistant curator.

Section of Organic Chemistry: Aida M. Doyle, aid.

Division of Medicine: Charles Whitebread, assistant curator.

DEPARTMENT OF ARTS AND INDUSTRIES, AND DIVISION OF HISTORY—Continued.

Division of Graphic Arts: R. P. Tolman, assistant curator; Ralph C. Smith, aid.

Section of Photography: A. J. Olmsted, custodian.

Loeb Collection of Chemical Types: O. E. Roberts, jr., curator.

DIVISION OF HISTORY:

T. T. Belote, curator; Charles Carey, assistant curator; Mrs. C. L. Manning, philatelist.

ADMINISTRATIVE STAFF

Chief of correspondence and documents, H. S. Bryant.
Superintendent of buildings and labor, J. S. Goldsmith.
Editor, Marcus Benjamin.
Engineer, C. R. Denmark.
Disbursing agent, N. W. Dorsey.
Photographer, A. J. Olmsted.
Property clerk, W. A. Knowles.
Assistant librarian, Isabel L. Towner.

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DEPARTMENT OF ARTS AND INDUSTRIES, AND DIVISION OF HISTORY—Continued.

Division of Graphic Arts: R. P. Tolman, assistant curator; Ralph C. Smith, aid.

Section of Prints: A. J. Olmsted, custodian.

Lent Collection of Chamber Prints: C. B. Hoover, in charge.

Division of History:

T. T. Belote, curator; Charles Carey, assistant curator; Mrs. C. L. Manning, philatelist.

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REPORT OF THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDED JUNE 30, 1926

By ALEXANDER WETMORE

Assistant Secretary, Smithsonian Institution

INTRODUCTION

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution, recognized that an opportunity was afforded, in carrying out the design of Smithson for the increase and diffusion of knowledge, to provide for the custody of the Museum of the Nation. To this new establishment was, therefore, intrusted the care and development of the national collections. At first the cost of maintaining this activity was paid from the Smithsonian income; then for a time the Government bore a share, but since 1877 Congress has provided for the expenses of the Museum.

The museum idea was fundamental in the organic act establishing the Smithsonian Institution, which was based upon a 12 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation during the years 1834 to 1846. It is interesting to note how broad and comprehensive were the views which actuated the Congress in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe, although containing many rich collections, were still to a large extent without a developed plan.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States," thus indicating the Museum at the very outset as the Museum of the United States and as one of the widest range in its activities. It was appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

The maintenance of the Museum was long ago assumed by Congress, the Smithsonian Institution taking upon itself only so much of the necessary responsibility for its administration as is required to coordinate it with its other activities. The Museum as a part of the Smithsonian is an integral part of a broad organization for increase and diffusion of knowledge, for scientific research, for cooperation with departments of the Government, with universities and scientific societies in America, and with all scientific institutions and men abroad who seek interchange of views with men of science in the United States.

Since 1846 the only material changes in the scope of the National Museum have been (1) the addition of a department of American history, intended to illustrate, by an appropriate assemblage of objects, important events, the domestic life of the country from the colonial period to the present time, and the lives of distinguished personages, and (2) provision, in 1920, for the separate administration of the National Gallery of Art as a coordinate unit under the Smithsonian Institution. From 1906 to 1920 the gallery was administered as the department of fine arts of the Museum.

The development of the Museum has been greatest in those subjects which the conditions of the past three-quarters of a century have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, which have been supplemented extensively by collections from other countries of the World. Opportunities for acquisition in these various directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which have been the direct outgrowths of earlier explorations stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded opportunity for establishing a department of industrial arts, of which the fullest advantage was taken. The historical series has been greatly augmented since 1918 by large collections illustrative of the World War, and large additions to exhibits in aircraft and kindred subjects have come in this same period.

Public interest in the growth and development of the National Museum is reflected in a steady increase of recorded attendance, in correspondents, and in requests for information.

OPERATIONS OF THE YEAR

APPROPRIATIONS

The maintenance of the National Museum for the fiscal year ended June 30, 1926, was provided for in the following regular items of appropriation carried in the executive and independent offices act approved March 3, 1925:

Preservation of collections	$441,092
Furniture and fixtures	21,800
Heating and lighting	77,560
Building repairs	12,000
Books	1,500
Postage	450
Printing and binding	44,000
	598,392

There is indicated a total increase of $13,600 above the amount available in 1925. The additional sum includes $7,600 for increases in salaries, of which $5,100 came through reallocations in positions by the Personnel Classification Board, $1,000 was allotted for increase in salaries of employees in the shops, and $1,500 was added by Congress for the employment of special watchmen to allow the opening on Sunday of the Arts and Industries Building. The sum of $6,500 was added to the funds for printing and binding. The appropriation for the purchase of books for the Museum library was decreased by $500, leaving only $1,500 available for that purpose.

Though the increases noted have afforded a certain measure of relief, particularly in the important matter of publications, the funds available for administration above the total of the pay roll are inadequate for the real needs of the institution. The amounts now in hand for operation are barely sufficient for routine expenditure for needed supplies when handled with the greatest possible economy, and leave only comparatively small sums available for the purchase of specimens and little or nothing that may be employed in explorations or for the furtherance of research activities.

The collections of the National Museum grow steadily in size and importance through transfers from other governmental departments, from collections or single specimens presented by outside agencies, or through participation by members of the staff in expeditions financed largely or entirely from outside sources. The outside sup-

port mentioned is important, and is fully appreciated, but should be supplemented to a much greater extent than now possible by appropriations that will permit the immediate development of the many opportunities that come to us to obtain new information and material through direct field investigation. Further, the Smithsonian Institution, through the National Museum, should be in a situation to develop useful researches of its own in many lines. Augmented funds for the purchase of specimens are also necessary since many gaps exist in our series. Though occasionally these are filled by gifts, there should be facility to make purchases when desirable specimens are offered at reasonable prices, as there can be no question but that every opportunity should be utilized to complete the collections of the museum. Civilized man is occupying increasing areas of the surface of the earth, and with his occupation come such vast changes from the original condition that natural conformations are destroyed and hundreds and thousands of species of animals and plants must disappear. Only those remain that are sufficiently adaptable to fit into the modified scheme brought about by man's presence; those at all sensitive to change, or that require special conditions for their existence, inevitably disappear. The next 50 years will offer the last opportunities to secure many forms of nature for preservation for the information and study of future generations, so that yearly it becomes more and more important, in fact a duty, to secure such material, since opportunities now neglected may never offer again. Certainly the National Museum of one of the greatest countries in the world should not fall behind in such matters.

Another matter deserving most serious consideration is that of the status of salary of the members of the staff. When the general reclassification act went into effect on July 1, 1924, it included provision for increase in pay at regular rates in the various grades in accordance with the efficiency of the employees. During the present year the third survey of the efficiency of the entire staff has been made, with the result that it has been found that the majority have attained a rating sufficient to warrant promotion. A survey of the salary roll shows that the majority of those that it covers still stand at the entrance salaries in their respective grades. The financial assistance already accorded the staff has been greatly appreciated, but should be supplemented now, after a lapse of three years, as indicated. The promotions desired are important to maintain the morale of the personnel, and are required especially in the many low-salaried positions in the staff, since these do not afford a proper living wage.

The decrease of $500 noted in the appropriation for the purchase of books, while seemingly small, leaves only $1,500 available for this use, an amount that is insufficient in view of present output in scien-

tific publication. Though the museum library receives many periodicals and publications in exchange for its proceedings and bulletins, there are many scientific books required in the routine work of the curators that may be obtained only through purchase. Cost of printing has increased to such an extent that the price of books is now double, or some cases more, what it was 10 years ago. The result of this is to cut the buying power of the appropriation so that decrease in the total amount is particularly unfortunate. The appropriation for the purchase of books should be increased above its former figure.

COLLECTIONS

Though the great collections housed in the National Museum have not had such extraordinary increase as last year, rich additions to our material have come from many sources. The 1,885 separate accessions during the year included 254,032 specimens and covered many notable things. The specimens noted were divided among the different departments as follows: Anthropology, 4,223; geology, 45,895; biology, 183,988; arts and industries, and the division of history, 19,926. The total of 363,490 reached last year included tremendous collections of plants comprising considerably more than 100,000 specimens. As the receipts in this branch during the present year were only normal, there is explained in large part the smaller total for this period.

There were received also 1,165 separate lots of material for examination, identification, and report. Much of this was geological and botanical in its nature. Some of this material has been retained for the Museum collections and part has been returned to the senders.

During the year 3,872 specimens were sent out as gifts, mainly to educational institutions. Included among these there were 39 school sets of geological material illustrating the method by which rock is weathered into soil, and 6 sets of mollusks, each including 149 specimens. A number of mounted specimens no longer required by the institution were presented to other museums, including 9 mounted mammals, 1 cast of a mammal, and 3 casts of reptiles sent to the Peabody Museum of Natural History at Yale University, and 4 mounted mammals and 2 reptiles forwarded to the Museum of Natural History of the Battle Creek public schools, Battle Creek, Mich. Exchange and transfer with other organizations of 37,681 specimens of all kinds from duplicates in the collections added much valuable material to the Museum series. In addition to this there were loaned for the study of specialists elsewhere 25,561 specimens. This last item is one that increases steadily and requires much time on the part of the staff, as it is necessary to select the specimens wanted, list them for record, and pack them for shipment, and then

on their return to unpack, check them, and return them to their proper place in the collections.

The many additions to the collections are discussed in proper detail under the departmental reports that are included in this volume, and may be found under the proper headings there.

EXPLORATIONS AND FIELD WORK

Appropriations for the support of the National Museum are at present such that comparatively little can be set aside from routine overhead expenses for the important matter of explorations and collections or researches in the field. Work of this kind accomplished under existing conditions is carried on mainly through funds supplied by private contributions, by cooperation with other organizations, through scholarships or allotments from outside funds, or frequently through the personal expense of those members of the staff who carry on the investigations. As such work is of the highest importance both from the standpoint of growth in the collections, and from its addition to human knowledge, it is hoped that adequate provision for such expense can be made. The question is one of considerable importance.

In the following paragraphs there are detailed the more important matters of this kind for the past year.

In the department of anthropology the curator and assistant curator of ethnology were engaged in field work in cooperation with the Bureau of American Ethnology for a period of several months. H. B. Collins, jr., assistant curator, carried on studies and research concerning early culture contacts between Indians and whites in the States of Mississippi and Louisiana, including studies of the ancient Choctaw, Attacapa, and Muskhogean cultures, preliminary to which many historical documents in the Library of Congress and in the division of archives of the State of Mississippi were consulted. H. W. Krieger, curator, carried on field work along the upper Columbia River in an attempt to uncover the archeology of the region mentioned, with a special effort directed toward the tracing of culture migrations on the Columbia. Work continued later in southeastern Alaska in study of tribal contacts and place names in that region and in an examination of the old village site at Kasaan.

The following investigations have increased the number of specimens in the division of American archeology either by transfer or gift: That of J. C. Clarke for the Bureau of American Ethnology in Youngs Canyon, Ariz.; and that of Monroe Amsden and Neil M. Judd for the National Geographic Society near Chaco Canyon, N. Mex. The National Geographic Society's exploration of caverns near Carlsbad N. Mex., under direction of the late Dr. Willis T. Lee, in

itself a major undertaking, obtained fragments of objects manufactured by unidentified Indian peoples that subsequently were presented by the society. N. M. Judd, curator of American archeology resumed direction of the National Geographic Society's archeological explorations in New Mexico late in May. It is expected that these researches, inaugurated in 1921, will be brought to conclusion during the fall of 1926. It had been contemplated to complete this work in five years, but new discoveries late in 1925 made it important to arrange for its extension for another year, which was done. As chairman of the research committee of the Archaeological Society of Washington Mr. Judd guided preparations for the society's stratigraphical researches, under the immediate direction of Dr. Manuel Gamio, at pre-Columbian village sites in the highlands of Guatemala. It is understood that the collections resulting from these investigations will be deposited in the National Museum.

The curator of physical anthropology, Dr. Aleš Hrdlička, under the joint auspices of the Smithsonian Institution and the Buffalo Society of Natural Sciences, made an expedition to the Far East, Australia, and South Africa, that in time lasted from March 25 to October 7, 1925, which has been of great value in connection with the curator's studies on the peopling of the world. There has resulted first-hand information of great value on sites where remains of ancient man had been discovered, and much knowledge of modern peoples, together with many valuable specimens for the collections. On May 24, 1926, Doctor Hrdlička, under the auspices of the Bureau of American Ethnology, left for Alaska to make a general survey that might locate promising sites for future excavations and to obtain data throwing light on the origin of the Eskimo. This work was well in progress at the close of the fiscal year.

In the department of biology Dr. Waldo L. Schmitt, curator of marine invertebrates, under the Walter Rathbone Bacon scholarship of the Smithsonian Institution, carried on extensive field studies of the crustacean fauna of the east coast of South America. Doctor Schmitt left New York on August 1, and collected and studied at various stations along the Brazilian coast from August 13 until the early part of November. He then proceeded to Montevideo, and completed the first season's investigations with work near Buenos Aires, Argentina, ending on January 15, 1926. From preliminary studies it may be stated that new records and new species have been obtained as well as much data on environmental conditions from sections where these have been almost wholly lacking. It is expected that this work will throw considerable light on the distribution of the crustacean elements of the South American fauna. Though crustacea comprise the bulk of the marine material secured, Doctor

Schmitt made important gatherings of insects, fishes, batrachians, and algae for the Museum, and obtained some interesting and valuable collections of live animals for the National Zoological Park. His visits to museums and similar institutions have resulted also in exchanges which will greatly benefit collections of the National Museum. Doctor Schmitt praises in the highest terms the cordial reception accorded him as a representative of the National Museum by the scientific and other governmental establishments visited in South America and by the individual scientists with whom he came in contact.

Rev. David C. Graham has continued during the year his work of zoological exploration and collection in Szechwan, western China, in spite of disturbances through the operation of brigands and civil warfare that existed on all sides. During July and August, 1925, he visited Mount Omei and Washan, a mountain south of Mount Omei, the highest point in that part of the Province of Szechwan. The expedition, which consisted of Mr. Graham and his native collectors and carriers, was fraught with danger and hardship, but resulted in highly satisfactory collections in various branches of natural history. The specimens reached Washington safely and have resulted in many additions to knowledge of the fauna of that section.

Dr. J. M. Aldrich, associate curator of insects, during the spring visited Guatemala to obtain specimens of flies of certain parasitic families. He arrived in Puerto Barrios April 7, and proceeded to Guatemala City. The season was unfavorable at that time because of dry weather which had persisted longer than normal, but near Obispo and at Antigua he found good collecting. At the request of the Guatemalan Minister of Agriculture he accompanied a party to Coban to assist in an investigation of the migratory locust, a serious pest in Guatemala and southern Mexico. The trip to Coban offered certain opportunity for collecting insects for the Museum, though an illness of some days' duration hindered work somewhat. He returned to Washington on June 4. The results of this work include some interesting new forms together with discoveries of importance relating to parasites. His expenses were paid mainly from personal funds, with an allowance from the Museum for steamboat fare (for which he was given a special rate through the interest of the United Fruit Co.). The Guatemalan Government assisted in transportation and financed the special trip to Coban.

C. T. Greene, honorary assistant custodian of Diptera, visited Panama from March to May for the Federal Horticultural Board, especially to study the fruit flies of the genus *Anastropha*. Larvae of these flies are frequently found in fruit brought into the United States, and it was desired to distinguish the various species in that

stage of development. Mr. Greene's work added several thousand specimens to the collection of Diptera.

The United States Naval Observatory eclipse expedition to Sumatra, 1925-26, resulted in important additions to the Museum, through Dr. H. C. Kellers, United States Navy, who on many previous occasions has shown his interest in the Museum and contributed generously to its collections, who was attached to the expedition as its medical officer. The main station of the expedition was located in the southwestern part of Sumatra in the little village of Kepahiang, 25 miles from the seaport of Benkoelen. From October, 1925, to the latter part of January, 1926, Lieutenant Kellers collected a large number of specimens, excellently preserved and carefully labeled, including marine invertebrates, insects, fishes, reptiles, amphibians, birds, plants, and mammals. Considering the short time available the collections are extensive and contain many interesting forms new to the Museum. The cordial cooperation of the United States Navy Department in perfecting arrangements and later through the officers in charge of the work has been highly appreciated.

Dr. Hugh M. Smith, honorary associate curator in zoology, at present located in Bangkok, Siam, in his capacity of fisheries adviser to the Siamese Government, has undertaken several extensive excursions to various parts of that kindom and has sent to the Museum large and important collections, particularly of birds, mammals, reptiles, and amphibians.

Prof. M. M. Metcalf of Johns Hopkins University, who visited various places in South America for the purpose of studying opalinid parasites, favored the Museum with extensive series of batrachians collected during the trip.

The expedition to Greenland undertaken by Capt. Donald B. MacMillan under the auspices of the National Geographic Society and the Navy Department, was instrumental in adding important collections. Special credit for the material preserved is due Dr. Walter Koelz, who accompanied the expedition as naturalist.

Capt. R. A. Bartlett secured interesting collections of marine invertebrates on his trip to Labrador.

During a stay in the Society Islands J. Morgan Clements from time to time sent some very interesting collections, particularly fishes and marine invertebrates.

Mr. Gerrit S. Miller, jr., curator of mammals, during part of March and April visited the west coast of Florida to obtain specimens of the porpoises inhabiting the Gulf of Mexico, and to study their habits. Mr. Aschemeier, of the taxidermist force, was detailed to aid him in collecting. Owing to the unfavorable condition of the inshore waters only one was secured, but very interesting material in other branches was collected.

Dr. Paul Bartsch, curator of mollusks, on his yearly inspection trip of the cerion colonies planted on the Florida Keys in connection with his hybridization studies under the auspices of the Carnegie Institution of Washington, spent some time at the Tortugas. A more detailed account of this trip has already been published in the Smithsonian Exploration pamphlet for 1925.[1]

Dr. William R. Maxon, associate curator of plants, left Washington the middle of May for Jamaica, and at the end of the fiscal year was engaged there in botanical exploration, giving special attention to the rich fern flora for which the island is noted. He expects to remain in the field until the middle of August. The primary purpose of the expedition is to obtain ferns to be used in an account of this group which is to be issued as a part of the Flora of Jamaica, now in course of publication by the British Museum (Natural History). The expedition is being undertaken with the cooperation of the American Association for the Advancement of Science, the New York Botanical Garden, the United Fruit Co., and the University of Pennsylvania.

Paul C. Standley, associate curator of plants, was absent from the Museum from the first of November until the end of March in botanical exploration in Central America, an expedition made possible through the cooperation of Mr. Oakes Ames and the United Fruit Co. Nearly three weeks spent in the Panama Canal Zone gave additional data for a flora of the Canal Zone, now nearly ready for publication. Mr. Standley was occupied for a week at the Barro Colorado Island biological station as the guest of the station to gather information for a list of the plants of the island. In Costa Rica, the Costa Rican Ministry of Education designated Prof. Juvenal Valerio to accompany and assist Mr. Standley during his work in that country. He visited the Canton de Dota, an interesting region having the only paramos occurring north of Colombia, the unexplored mountains of Guanacaste, and many localities in the uplands of central Costa Rica and the lowlands of the Atlantic slope. Sixteen thousand specimens of plants were obtained, including over 2,000 numbers of orchids and many new or rare species. This material is for use in preparation of a Flora of Central America, part of which already has been written. It is Mr. Standley's expectation to prepare also a list of the plants known from Costa Rica for publication in that country.

Emery C. Leonard, aid in the division of plants, was engaged in field work in Haiti from the first of November until the middle of March, under a grant from Dr. W. L. Abbott, in whose company Mr. Leonard visited the same country a few years ago. This year

[1] Smithsonian Misc. Coll., vol. 78, no. 1, 1926, p. 44–46.

collections made in several localities in northern Haiti included 9,000 specimens of plants, many of great interest. This material will be utilized in a descriptive flora of Haiti.

Secretary Charles D. Walcott, assisted by Mrs. Walcott, continued field work in the Canadian Rockies during the season of 1925, leaving Lake Louise station, Alberta, on July 9. Commissioner J. B. Harkin and members of the Canadian National Park Service, as well as the officers and employees of the Canadian Pacific Railway, gave hearty cooperation in this work, which was aided by grants from the O. C. Marsh and Joseph Henry endowment funds of the National Academy of Sciences. The field season was quite unfavorable, for not only did smoke from extensive forest fires interfere with photographic work, but snowfall at frequent intervals kept the ground so covered that collecting was most difficult. Through hard work and good fortune fine series of fossils from critical horizons in the great lower Paleozoic section north of Bow Valley were discovered and collected. These increase our knowledge of the history and life of the Cordilleran Sea at that time, and afford data for comparison with life and conditions in the Appalachian trough and the great upper Mississippi embayment of Upper Cambrian times. In the interval between the snowstorms of September 5 and 9, several new fossil zones were found in the lower Ordovician rocks of the Johnston-Wild Flower Canyon Pass section, and also in the Upper Cambrian strata west of Badger Pass, where Doctor Walcott was able to clear up uncertainty regarding certain of the formations. This trip may conclude Doctor Walcott's field work in the Canadian Rockies, as it is his intention to devote his efforts to geologic work in other Cambrian formations of the Cordilleran area essentially of the same order.

Dr. Charles E. Resser and Dr. E. O. Ulrich were members of the Smithsonian-Princeton expedition to Europe during the summer of 1925, their purpose being to study the more important outcrops of the lower Paleozoic beds. The other members of the party were Prof. R. M. Field and R. M. Fulle, of Princeton, and R. J. Beede, of Williams College. By the use of Professor Field's automobile, the party was enabled to get about readily and to reach many places off the usual travel routes. The route followed covered more than 7,500 miles by automobile through central England, Wales, and the extreme north coast of Scotland, the Scandinavian countries, Germany, Czechoslovakia, Austria, Switzerland, and France. Work was begun in Shropshire and continued in Wales, where Prof. T. C. Nicholas, of Cambridge, and Prof. O. T. Jones, of Manchester, guided the party; then to Durness, Scotland, where a large series of limestone beds were studied and collected in detail because their contained

faunas are American rather than European. After a study of the early Paleozoic rocks of Norway and Sweden, the party proceeded rapidly to Prague, where the geologists again were offered every courtesy, and Dr. Jan Koliha, of the famous Barrandeum Museum, and Dr. Radim Kettner, of the Geological Survey, served as efficient guides to Barrande's classic sections. From Czechoslovakia the journey led to Zurich and then continued across the Jura Mountains and the Central Massif of France to Les Eyzies, in the Dordogne country. Several days were spent in investigating the abris and caves in which remains of fossil man are preserved. Doctor Resser then continued alone and made studies in Germany and Denmark before sailing for home. As a result of this trip, several hundred pounds of selected fossils were collected, a number of valuable gifts were secured, and exchanges were arranged.

During August and a part of September, 1925, Dr. R. S. Bassler had opportunity, in cooperation with the Tennessee Geological Survey, of studying in the central basin and highland rim areas of Tennessee, where for several years past he has been engaged in working out the detailed stratigraphy of these two physiographic provinces, in mapping certain areas of particular scientific and economic interest, and in collecting the faunas of the various Paleozoic formations outcropping in that part of the State. Excellent sets of fossils from many formations at widely scattered points were obtained, and maps were prepared of four areas of about 250 square miles to illustrate the geology of the State. Two of these maps have since been published by the State geological survey.

Erwin R. Pohl, aid in the division of invertebrate paleontology, spent several weeks in the summer of 1925 at the noted section along Kashong Creek, near Bellona, N. Y., where the shale and limestone formations of the Middle Devonian and Upper Devonian age are well developed. Most of the formations indicated abound in fossils and, as a result of the trip, half a ton of carefully selected material was obtained. The field work on these formations was continued by Mr. Pohl during a part of May and June, 1926, when he extended his study of the section and the collecting of fossils westward in New York, and into Ontario, Canada. It is believed that with the help of this added material the Devonian collections in the Museum may now be placed in their correct stratigraphic horizons.

Under an allotment from the Marsh fund of the National Academy of Sciences, Charles W. Gilmore was enabled to visit the Grand Canyon in Arizona to continue work begun last year in cooperation with the National Park Service. Large collections, chiefly of fossil footprints were made from three distinct levels through a geological thickness of 950 feet, and in three distinct formations. It is, perhaps, the first time in ichnological history that conditions have permitted

the securing of successive faunas through such a great depth of geological strata. The great age of these tracks, their variety and excellent preservation, and their occurrence in three successive and well-established geological horizons are all features which endow them with a distinct value in throwing light upon the character of the animal life of the Permian geological period. To the geologist, in the absence of other fossil criteria, they may eventually be of great assistance in the correlation of widely separated geological formations, while to the layman they will ever be a source of wonder and speculation, recording, as they do, the activities of creatures long since extinct.

Under the auspices of the Bureau of Ethnology, Dr. J. W. Gidley, made three field expeditions during the year. Two of these (the first being in collaboration with Amherst College) were for the purpose of investigating the evidence of early man in Florida. Approximately four months were spent in this study, the field chosen being in the vicinity of Melbourne. The expeditions met with gratifying success both in the collecting of specimens and in the securing of considerable new evidence to be considered in working out the problem of early man in Florida.

In October, 1925, Doctor Gidley, also under the auspices of the Bureau of Ethnology, was detailed to examine a spring deposit in southwestern Oklahoma in which fossil bones had been discovered. Although no great amount of material was obtained the general results of this exploration seem to be important both geologically and ethnologically.

Norman H. Boss, with Remington Kellogg who is working under a grant from the Carnegie Institution, has continued explorations in the Miocene deposits in the Chesapeake Bay region. As in past years, a considerable amount of fossil cetacean material of great value to the collections was obtained at little expense to the Museum.

NATIONAL SESQUICENTENNIAL EXPOSITION, PHILADELPHIA

During the last three months of the fiscal year regular Museum activities in a number of the divisions were directed toward plans and preparations for exhibits for the Sesquicentennial Exposition at Philadelphia. The Smithsonian Institution, at the request of the National Sesquicentennial Exposition Commission, in October, 1925, submitted an estimate of $50,000 as the amount required for a suitable exhibit by the institution at the National Sesquicentennial Exposition to be held in Philadelphia from June 1 to November 30, 1926. After plans of operations had been submitted on the above basis, the institution was notified in March, 1926, that $25,000 had been allotted for the Smithsonian exhibit, which necessitated a re-

vision of the entire scheme. W. deC. Ravenel, as contact officer for the institution, had general supervision of the preparation and the installation of the exhibit. By the end of May, most of the material had been assembled in Washington, but delay in completion of the Transportation Building in Philadelphia to which our exhibits were assigned postponed the work of installation. Late in June the institution gained possession of its space, and at the end of the fiscal year the transfer and installation of the exhibit was nearing completion.

The exhibit in anthropology for the Sesquicentennial Exposition at Philadelphia, owing to the brief time available for preparation, contrary to usual custom, was taken from the display in the public halls of the Museum. It is thus a section of the Museum exhibit of anthropology selected for its attractiveness and educational interest. That this purpose was attained is evident from favorable comment, and numerous requests that have come for booklets describing the exhibit. The exhibit was divided into three sections, each presenting matter of general interest. The first concerned the arts and crafts of certain existing Indian tribes and included groups illustrating Zuni potters at work, the Navaho silversmith engaged in his trade, and Navaho engaged in weaving blankets. There were also eight models in miniature of village groups of the Iroquois, Sioux, Pawnee, Wichita, Chippewa, Seminole, Navaho, and Pujunan ("Digger") Indians, which give an impression of the houses and outdoor life of the more important races of Indians at a time when they had been little changed by the white man.

A large part of the exhibit consisted of series of objects arranged to show the evolution from simple beginnings of some common things connected with daily life. The series in question have been designated the history of fire making; the lamp; the candle; the cup, knife, fork, and spoon; the hammer; the saw; the drill; the American ax; the European ax; and others.

To illustrate the methods by which the ancient Indians worked copper, there was sent a group of American aborigines, designed by Dr. W. H. Holmes, engaged in mining and working native copper. With these were ancient copper implements collected at various localities in Michigan and other Great Lake States, and also some of the copper work of present day Indians for comparison.

To hint at the prehistoric weaver's craft, there were shown specimens of the wonderful textiles of Peru.

As a part of the exhibit there were two cases containing busts of celebrated and typical American Indians of several tribes, prepared from life masks made in the field, under direction of Doctor Hrdlička. Another case contained masks of the Eskimo of Bering

Strait, taken in the field by explorers to represent the lineaments of this interesting race.

Because of the short time available, it was possible to send from the department of biology only a mounted group of Rocky Mountain sheep, prepared by W. L. Brown, taxidermist, mainly from specimens collected in the Canadian Rockies by Secretary and Mrs. Walcott. The four animals included constitute a family group.

In the department of geology, exhibits were furnished by all divisions of the department at the expense of a considerable amount of time in preparation. Economic geology supplied radium ores and radio-active minerals, and a series showing the quantitative composition of common ore minerals; physical geology a collection exhibiting the formation of soil by rock weathering; and mineralogy a series of North American gem minerals and cut stones. In stratigraphic paleontology exhibits were designed to indicate the large part that fossil plants have played in the history of Pennsylvania. One of these illustrated the various types of plant life of the State during the Coal Measures when the anthracite and bituminous coal beds were formed. The unusually large and well-preserved plant impressions in the coal-bearing shale obtained for this exhibit were so arranged that, with the accompanying photographic restorations, the visitor was able easily to study the source of supply of the coal beds. A second exhibit showed the beginnings of life upon the globe when the low forms of plants known as calcareous algae were the only living organisms. Such fossils form a considerable part of some of the most ancient limestones of the State. A third exhibit, devoted to invertebrate fossils, displayed the very early forms of animal life discovered by Secretary Walcott, which are of unique interest in that many of the specimens preserve the internal anatomy of the organism. The division of vertebrate paleontology displayed two fine fossil turtles, an articulated skeleton of a fossil sea reptile, and a 12-foot skeleton of a giant fossil fish. Two painted restorations added to the interest of this exhibit.

The division of mechanical technology devised an exhibit visualizing the development of the steam engine, consisting of a group of specially prepared models from the engine of Hero, made in 50 A. D., to that of James Watt, of 1777.

The division of graphic arts prepared a series of some 250 specimens covering various subjects of graphic arts and photography. A large number of these prints were new to the division, being accessions of this year from Dr. Thomas Wilson and Mrs. G. F. C. Smillie, while a few were specially borrowed from Dr. Edwin Kirk, DeLancey Gill, the American Type Founders Co., and from the assistant curator's private collection.

In view of the character of the celebration, the division of history brought together an appropriate exhibit, chiefly from its reserve series. The military history of our country was represented by a series of military uniforms showing the various types used by the United States Army from 1776 to 1926, a series of small arms (swords, rifles, pistols, and revolvers) used in the Army during that period, and a collection of military insignia relating to that time. The naval history was represented by models of the ships of Columbus, typifying the period of discovery, the *Mayflower*, typifying the period of colonization, and the *Constitution*, of the period of the early part of the 19th century. Still another unique feature was a series of 1,889 commemorative postage stamps and envelopes of the United States and foreign countries issued from 1876 to 1926.

The various departments of the National Museum, by the loan of exhibit material, also assisted other governmental and other establishments in making displays at Philadelphia; these included the Navy Department, the Post Office Department, the Geological Survey of the Interior Department, the Bureau of Fisheries of the Department of Commerce, the Shipping Board, the Library of Congress, the National Red Cross, and the New York Public Library.

EDUCATIONAL WORK

Public interest in the exhibits of the National Museum in its many branches is shown by the steadily growing number of visitors. Modern developments in transportation through the medium of the automobile have brought to the National Museum in the last year a greatly increased attendance, drawn from a broader area of our country than ever before. Parking spaces near the museum are crowded daily, except during the colder months, with cars that bear license tags from every State in the union. The educational scope of the collections is thus broadened and extended through personal contact established with a larger body of the public. Interest in matters that pertain properly to the sphere of a museum is also increasing, with a resultant growth in inquiries by mail and in material forwarded for identification or that information may be obtained regarding it.

Visitors frequently include classes or groups of students who, as part of their work, have been brought to the National Museum to inspect its exhibits. The visual method of instruction has particular appeal in that it demonstrates successfully and forcefully many matters that when seen make a lasting impression on the mind, but that from the printed page alone seem utterly dull and uninteresting. Classes from the public schools come to the Museum halls almost daily, and it is not unusual to see such groups from near-by towns or even from a considerable distance. The motor bus is used suc-

cessfully for many such parties. Many informal talks are given such groups by the curators on the staff of the Museum in explanation of the exhibits.

Publications of the Museum presenting the newer facts of science are in constant demand, and are distributed as widely as the editions permitted by the appropriation for printing allow. There are also certain distributions of duplicate specimens from the collections that are placed where they may be available in other institutions, together with thousands of other specimens that are loaned for the use of investigators at a distance.

The radio program of the Smithsonian Institution, organized two years ago through Austin H. Clark, of the Museum staff, has continued as a regular winter feature of the program of station WRC and has attained marked popularity as indicated by growing interest in the subject matter of the various talks. Thirty-two talks were given during the year, from August 5, 1925, to May 29, 1926, through the medium of 30 speakers, 12 of whom were members of the Smithsonian staff. Seven of these talks reached a broader audience than usual, as they were rebroadcast from station WBZ in Springfield, Mass. The subjects treated cover a wide range of topics, from butterflies to earthquakes, and from turtles to comets. The subject matter of a number of these talks has been given permanent preservation by means of publication in the pages of the Scientific Monthly through the interest of its editor, Dr. J. McKeen Cattell. Others have appeared elsewhere. As an educational factor for the spread of authentic scientific information the radio has a steadily increasing importance and is a means for the diffusion of knowledge among men wholly in accord with the aim and ideals of the Smithsonian Institution.

The program for the year was as follows:

FROM STATION WBZ, SPRINGFIELD, MASS.

Butterflies: Austin H. Clark, Smithsonian Institution, August 5, 1925 (introduced by Thornton W. Burgess).

FROM STATION WRC, WASHINGTON, D. C.

Flies: Dr. John M. Aldrich, National Museum, October 1, 1925 (read by Austin H. Clark).

Our Lighthouse Service: Hon. George R. Putnam, Director of Lighthouses, October 8, 1925.

Plant Lice and Scale Insects: Harold Morrison, Bureau of Entomology, October 15, 1925.

Earthquakes: Commander N. H. Heck, Coast and Geodetic Survey, October 22, 1925.

Our Alaskan Fisheries: Hon. Henry O'Malley, Commissioner of Fisheries, October 29, 1925.

The Work of the Bureau of Standards: Dr. George K. Burgess, Director, Bureau of Standards, November 5, 1925.

Turtles: Miss Doris M. Cochran, National Museum, November 12, 1925.

Studying the Sun in Chile: L. B. Aldrich, Astrophysical Observatory, November 19, 1925.

Comets: Prof. Edward S. King, Harvard College Observatory, November 26, 1925. (Read by Austin H. Clark through the courtesy of Prof. Harlow Shapley and station WEEI, Boston.)

The Ups and Downs of the Earth: Maj. William Bowie, Coast and Geodetic Survey, December 3, 1925.

The Story of Time Keeping: Carl W. Mitman, National Museum, December 10, 1925.

The Numbers, Motions, and Sizes of the Stars: Dr. William J. Luyten, Harvard College Observatory, December 17, 1925. (Read by Austin H. Clark through the courtesy of Prof. Harlow Shapley and station WEEI, Boston.)

How the Insects Spend the Winter: S. A. Rohwer, Bureau of Entomology, December 24, 1925.

How Men Learned to Fly: Paul E. Garber, National Museum, January 7, 1926.

New Stars and Variables: Dr. Annie J. Cannon, Harvard College Observatory, January 14, 1926. (Read by Austin H. Clark through the courtesy of Prof. Harlow Shapley and station WEEI, Boston.)

The American Sword: T. T. Belote, National Museum, January 21, 1926.

Measuring the Universe: Prof. Harlow Shapley, director Harvard College Observatory, January 28, 1926. (Read by William M. Sweets, of the staff of station WRC through the courtesy of Prof. Harlow Shapley and station WEEI, Boston.)

Archaeology in the Southern States: Henry B. Collins, jr., National Museum, February 11, 1926.

Our Ancient Seas: Dr. Charles E. Resser, National Museum, February 18, 1926.

Some Aspects of the Development of Printing: R. P. Tolman, National Museum, February 25, 1926.

Birds from the Rocks: Charles W. Gilmore, National Museum, March 4, 1926.

Household Pests: Dr. E. A. Back, Bureau of Entomology, March 11, 1926.

Some Aspects of Northwest Coast Indian Art: Herbert W. Krieger, National Museum, March 25, 1926.

Bug *versus* Bug: R. A. Cushman, Bureau of Entomology, April 1, 1926.

Eclipses: Leon Campbell, Harvard College Observatory, April 8, 1926. (Read by Austin H. Clark through the courtesy of Prof. Harlow Shapley and station WEEI, Boston.)

Spring Flowers: Dr. Edgar T. Wherry, Bureau of Chemistry, April 15, 1926.

What are the Stars? Prof. Harlow Shapley, director of the Harvard College Observatory, April 22, 1926. (Read by Austin H. Clark through the courtesy of Professor Shapley and station WEEI, Boston.)

How Fossils get into the Rocks: Dr. Wendell P. Woodring, Geological Survey, April 29, 1926.

Spiders: Clarence R. Shoemaker, National Museum, May 6, 1926.

Crabs, Lobsters, and Their Relatives: Dr. Waldo L. Schmitt, National Museum, May 13, 1926.

Bright Stars and Constellations: Dr. William J. Luyten, Harvard College Observatory, May 20, 1926. (Read by Austin H. Clark through the courtesy of Prof. Harlow Shapley and station WEEI, Boston.)

The National Museum has no funds that may be devoted to a general series of lectures for the public, but participates in such work

through the activities of a number on the staff who speak regularly before various clubs and organizations.

N. M. Judd, curator of American archeology, lectured during the year before the Boston City Club, the Brooklyn Art Institute, the Stuyvesant School, Warrenton, Va., the Denver Historical Society, and two organizations in Washington, one of which was made up exclusively of Members of Congress and their families.

I. M. Casanowicz, assistant curator of Old World archeology, delivered a lecture on the "Cult of Mithra" before the Olam Club.

Lectures and addresses delivered by Dr. Aleš Hrdlička, curator of physical anthropology, during the year included the following: Before the men's class, All Souls Unitarian Church, Washington, D. C., the Washington Anthropological Society, and St. John's College, Annapolis, Md., on "Traces of ancient man in far-away parts of the earth"; before the Buffalo Society of Natural Sciences, a report of his trip to the Far East; before the "Round Table" (Practical Psychology Club of Washington) on "The evolution of the human mind"; before the Art and Archaeology League, in the Museum auditorium, on "Human and racial problems of India and the far southeast"; before the Buffalo Society of Natural Sciences a series of three lectures, "The differentiation of man, his peopling of the earth, and the present race"; "The racial constitution of the European nations with special regard to Great Britain"; and "The formation of a new American type of the white race and its characters." A further talk was given before the Sociology Club of Buffalo.

In addition to the above, in the department of anthropology an interview on dolls was given for an article in the Red Cross Magazine; sixth and seventh grade pupils were given a talk on writings on clay tablets; 60 members of a girl's school at Frederick, Md., were conducted through the Museum and given a travelogue; a number of Boy Scouts were given points on aboriginal fire making; and a Comanche Indian was shown how to make fire by his tribal method. Exhibits were loaned to the National Park Service and the National Geographic Society during National Educational Association week, and to the Carnegie Library of musical instruments for music week.

In connection with the department of biology the assistant secretary, Dr. A. Wetmore, gave talks on "Bird migration" at a meeting of the Baird Ornithological Club, before the Aububon Society of the District of Columbia, and the Takoma Park Horticultural Club, and delivered a series of six lectures on the "Migration of birds" at the

Lowell Institute, Boston. He spoke also before the Maryland State Game and Fish Conservation Association, at Baltimore on "Strange game," and at a meeting of the Washington Club on "Wild life of the Hawaiian bird reservation."

Miss Doris M. Cochran gave a talk before the Journal Club of Johns Hopkins University on the work of the National Museum. Dr. Waldo L. Schmitt spoke on his experiences in collecting invertebrates in South America, before the Biological Society and the Boy Scouts of Takoma Park. While in Montevideo, Uruguay, on February 15, 1926, he gave a talk on oceanographic research before the American Club of that city.

Dr. Paul Bartsch, in addition to activities as head professor of zoology at George Washington University, and as director of the histological laboratory and professor of parasitology at the medical school, Howard University, in which capacities he brought classes to the Museum, outside of official hours, for examination of exhibits, has taken an active part in various endeavors for the advancement of elementary and popular education in biological matters. He was designated by the Smithsonian Institution to serve on an advisory committee to provide an outline for courses in nature study and elementary science in public schools. In addition he gave a number of popular lectures on various natural history topics, including a talk on "Wonders of the deep" before St. John's College, Annapolis, Md., and the Massachusetts Society at the Washington Club, a plea for the conservation of birds and wild flowers, before the schools of Purcellville, Va., the Community Club of the Georgetown Presbyterian Club, the Jefferson Junior High School, the citizens of Takoma Park, the Garden Club of Montgomery County, Md., and the Boy Scouts of Hyattsville, Md. He spoke before the Northeast Citizens Association on "Experiences of a naturalist," and on May 13, 1926, addressed the Faculty Club of George Washington University on "Problems in heredity" utilizing the results obtained in his cerion breeding experiments.

In the department of geology Dr. G. P. Merrill, head curator, delivered lectures on meteorites at Columbia University, New York, at Harvard University, at the Massachusettes Institute of Technology and at Bryn Mawr College.

Dr. R. S. Bassler, in the course of field work during the summer of 1925, spoke before several meetings of Rotary clubs in Tennessee and Ohio, his subject in each instance being the work of the Smithsonian Institution and its branches. During the winter he gave several illustrated lectures to the Boy Scouts of the District and to other organizations on some phase of the work of the geologist.

He has had occasion also to give talks to classes in biology and general science of the Washington high schools and other educational institutions when visiting the Museum.

Dr. C. E. Resser has lectured at various times during the year to visiting classes of students, over the radio, and to local churches, and once at Blue Ridge College.

C. R. Gilmore on several occasions gave brief explanatory talks to classes from various schools and colleges of Washington visiting the exhibition halls and laboratories. Some 300 students were included in these various groups. He also delivered a radio talk on "Fossil birds in the rocks."

The activities of members of the staff in various scientific societies and papers prepared by them are indicated in part in the bibliography that forms part of this report.

C. W. Mitman, curator of mineral and mechanical technology, lectured before the Kiwanis Club of Washington on automobiles, and the assistant curator, P. E. Garber, gave talks on the evolution of the airplane before the Gloucester-Salem Council, New Jersey Boy Scouts, and on the world flight before the Capitol Model Airplane Club of Washington.

One of the boat models, the *Phoenix*, devised by John Stevens in 1807, and a reproduction of the original Morse telegraph instrument were loaned to the New Jersey State Museum, Trenton, N. J., for 10 days. Six models of historic boats, together with a series of 136 portraits of noted Americans, from the division of history, were loaned for the annual historical exposition at Heinz Pier, Atlantic City, N. J. Five boat models, including several of boats used by the Fish Commission, were loaned to the Department of Commerce for use at the Sesquicentennial in Philadelphia. One boat model was loaned to the Navy Department and two boat models, one being the 20-foot model of the *Leviathan*, were loaned to the Shipping Board for the same purpose.

F. L. Lewton, curator of the division of textiles, at the request of the director of the educational department of Woodward & Lothrop's department store of Washington, gave several lectures on cotton and silk manufacture, cloth construction, and ornamentation to a group of employees buying or selling textiles. Two groups of teachers and students from the home economics department of the Washington Missionary College, with the head of the department, were likewise given lectures on cloth construction and fabric design.

Many classes and individuals were conducted through the division of medicine, at which time talks concerning the exhibits were given.

William N. Watkins, assistant curator of the section of wood technology, addressed classes of grammar and high school students from

the District of Columbia public schools, on subjects pertaining chiefly to the products of the wood-using industries.

The six traveling exhibits of the division of graphic arts were shown in 55 different establishments in 15 States, from the Atlantic to the Pacific, as follows: In colleges, 6; museums, 3; schools, 35; trade schools, 4; public libraries, 2; printers' organizations, 2; and unclassified, 3. In connection with these displays three sets of lantern slides of the exhibits were loaned to persons wishing to give preliminary talks on the exhibitions. R. C. Smith, aid in this division, gave two talks in Baltimore and one in Washington on "How prints are made."

Technical instruction was given in connection with two of the temporary exhibitions in graphic arts mentioned elsewhere in this report. As an adjunct to his exhibit of aquatints in color, Georges Plasse gave a very instructive lecture in the Museum auditorium on November 5 on "How aquatints are made," illustrated by motion pictures taken in his Paris studio. Likewise, during a special exhibition of bromoils in the section of photography, Joseph M. Bing, of New York City, gave a practical demonstration of bromoil and transfer in the photographic laboratory on January 16, 1926, clearly showing the various steps, before a group of Federal photographers.

A special series of 71 pictorial photographs, from the recent additions to the permanent collection of the Museum, was displayed in New York City in November, 1925, under the auspices of the Camera Club of New York. Local establishments also were assisted as usual in their educational work. A small exhibit illustrating the art of printing, by patent models, lithographic stones, and prints, was lent for exhibition at the Randall High School, and a series of 309 die proofs of United States postage stamps from 1847 to 1904, printed by the Bureau of Engraving and Printing in 1904, was exhibited in the Washington Public Library, February 1 to 14, 1926, under the auspices of the Washington Philatelic Society.

VISITORS

The visitors to the national collections during the year ended June 30, 1926, aggregated 1,106,305 persons, an increase of 84,302 over figures for 1925. The increase doubtless reflects the changed conditions of the times, since 1925 was inaugural year, when attendance has usually exceeded that of the year immediately following. The opening of the Arts and Industries Building on Sunday afternoons this year was undoubtedly a factor in bringing increase in attendance, as was also the increase in touring by automobile.

The Museum exhibition halls—in the Smithsonian Building and in the three buildings belonging exclusively to the Museum—have always been open free to the public on week days, including holidays, and since October, 1911, the Natural History Building has been open also Sunday afternoons from 1.30 to 4.30. On July 5, 1925, Sunday afternoon opening was extended to the Arts and Industries Building, through authorization by Congress for the appointment of additional watchmen for duty on Sunday afternoons.

For the first time in its history, all the Museum exhibition halls were closed to visitors on Christmas Day and New Year's Day (December 25 and 26, 1925, and January 1, 1926).

The number of visitors to the Smithsonian Building during the year was 110,975 and to the Aircraft Building, 58,005, a daily average of 358 for the former and 187 for the latter; to the Arts and Industries Building, 322,982 on week days and 32,780 on Sundays, a daily week-day average of 1,041 and a Sunday average of 630; and to the Natural History Building 479,996 on week days and 101,567 on Sundays, a daily week-day average of 1,548 and a Sunday average of 1,953. Average attendance for week days has been 3,134 and for Sundays for the two buildings open, 2,583.

Number of visitors during the year ended June 30, 1926

Year and month	Smithsonian Building	Museum buildings			Total
		Arts and Industries	Natural History	Aircraft	
1925					
July	11, 635	38, 680	53, 773	6, 285	110, 373
August	20, 556	56, 741	88, 518	9, 288	175, 103
September	11, 369	34, 753	52, 790	5, 823	104, 735
October	9, 116	26, 716	47, 904	4, 252	87, 988
November	4, 724	15, 791	32, 500	2, 306	55, 321
December	3, 642	12, 342	23, 171	2, 380	41, 535
1926					
January	3, 413	11, 739	28, 444	1, 964	45, 560
February	4, 614	14, 773	28, 945	2, 119	50, 451
March	5, 012	19, 146	35, 558	2, 636	62, 352
April	13, 793	42, 537	66, 910	6, 748	129, 988
May	9, 069	36, 730	61, 493	6, 858	114, 150
June	14, 032	45, 814	61, 557	7, 346	128, 749
Total	110, 975	355, 762	581, 563	58, 005	1, 106, 305

Number of visitors to the Smithsonian and Museum Buildings since 1881

Year	Smithsonian Building	Museum buildings			Total
		Arts and Industries	Natural History	Aircraft	
1881	100,000	150,000			250,000
1882	152,744	167,455			320,199
1883	104,823	202,188			307,011
1884 (half year)	45,565	97,661			143,226
1884–85 (fiscal year)	105,993	205,026			311,019
1885–86	88,960	174,225			263,185
1886–87	98,552	216,562			315,114
1887–88	102,863	249,665			352,528
1888–89	149,618	374,843			524,461
1889–90	120,894	274,324			395,218
1890–91	111,669	286,426			398,095
1891–92	114,817	269,825			384,642
1892–93	174,188	319,930			494,118
1893–94	103,910	195,748			299,658
1894–95	105,658	201,744			307,402
1895–96	103,650	180,505			284,155
1896–97	115,709	229,606			345,315
1897–98	99,273	177,254			276,527
1898–99	116,912	192,471			309,383
1899–1900	133,147	225,440			358,587
1900–01	151,563	216,556			368,119
1901–02	144,107	173,888			317,995
1902–03	181,174	315,307			496,481
1903–04	143,988	220,778			364,766
1904–05	149,380	235,921			385,301
1905–06	149,661	210,886			360,547
1906–07	153,591	210,017			363,698
1907–08	237,182	299,659			536,841
1908–09	198,054	245,187			443,241
1909–10	179,163	228,804	50,403		458,370
1910–11	167,085	207,010	151,112		525,207
1911–12	143,134	172,182	281,887		597,203
1912–13	142,420	173,858	319,806		636,084
1913–14	102,645	146,533	329,381		578,559
1914–15	40,324	133,202	321,712		495,238
1915–16	48,517	146,956	381,228		576,701
1916–17	86,335	161,700	407,025		655,060
1917–18	67,224	161,298	401,100		629,622
1918–19	101,504	266,532	[1] 132,859		500,895
1919–20	86,013	250,982	422,984		759,979
1920–21	90,235	286,397	467,299	31,235	875,166
1921–22	83,384	262,151	441,604	46,380	833,519
1922–23	95,168	259,542	508,518	42,904	906,132
1923–24	104,601	290,012	540,776	43,534	978,923
1924–25	107,342	304,858	557,016	52,787	1,022,003
1925–26	110,975	355,762	581,563	58,005	1,106,305
Grand total	5,573,714	10,326,966	6,296,273	274,845	22,411,798

[1] Building open for only three months of the year

PUBLICATIONS

The publications issued during the year include eight volumes, the annual report for 1925; volume 65 of the Proceedings; Bulletin 131, "The minerals of Idaho," by Earl V. Shannon; Bulletin 132,

"Revision of the North American moths of the subfamilies Laspeyresiinae and Olethreutinae," by Carl Heinrich; Bulletin 138, "Observations on the birds of Argentina, Paraguay, Uruguay, and Chile," by Alexander Wetmore; Contributions from the National Herbarium, volume 25, "Flora of Utah and Nevada," by Ivar Tidestrom; and a very small edition, for office use, of the complete volume 66 of the Proceedings and the complete volume 20, "Contributions from the National Herbarium." Forty-nine separate papers published include 1 paper in the bulletin series, 3 in the contributions from the National Herbarium and 45 in the Proceedings.

The complete distribution of the Museum volumes and separates to libraries and individuals on the regular mailing lists aggregated 81,803 copies, while in addition 15,001 copies of publications issued durng this and preivous years were supplied in response to special requests. The mailing lists have been carefully revised to avoid loss in distribution so far as practicable.

The editorial office, besides supervising the printing of the publications, has charge also of all miscellaneous printing and binding for the Museum, in which connection 491,530 forms, labels, and other items were printed and 1,497 volumes were bound.

LIBRARY

Growth in the several divisions of the Smithsonian library is due chiefly to the exchange of publications between the Institution and its branches and other learned institutions and societies throughout the world. These publications come to the library direct, or through the International Exchange Service. In the course of the year 30,541 packages of one or more publications each came to the library by mail and 7,352 through the Exchange. The number of the latter was more than three times that of the year before. The total shows the splendid response made by institutions and societies to the letters prepared by the library calling attention to gaps in its sets of their publications or proposing new exchanges.

During the year there were added to the Museum library 1,660 volumes and 1,466 pamphlets, so that it now contains 66,808 volumes and 104,417 pamphlets, a total of 171,225, which does not include thousands of volumes awaiting completion. Most of the accessions were, as has been indicated, obtained by exchange, a comparative few were obtained by purchase with the small sum available for that purpose, and an unusually large number came by gift. The largest gift, from the Library of Congress, comprised 606 volumes and 808 parts of volumes from its collection of duplicates, some stamped "Smithsonian deposit," others "Library of Congress," sent to the Museum library to help complete sets of society publications

pertaining mainly to natural history. Generous gifts were also received from Secretary Walcott, who, as usual, contributed hundreds of items to the library, particularly to the section of geology and paleontology; Dr. W. H. Holmes, who gave 83 volumes and 363 pamphlets; Dr. W. H. Dall, who added 173 titles to the sections of mollusks; Dr. C. W. Richmond and J. H. Riley, who gave many books and pamphlets, some of them very rare, to the section of birds and to the main library; and N. M. Judd, who contributed 18 volumes to the section of anthropology. Among other donors were A. N. Caudell, John Gallagher, Dr. O. P. Hay, Dr. A. Hrdlička, Dr. W. R. Maxon, Dr. G. S. Miller, S. A.Rohwer, Dr. W. Schaus, and Assistant Secretary Wetmore. These gifts, particularly that from the Library of Congress, increased materially the resources of the library and are deeply appreciated.

Besides keeping up the regular work, the staff was able to complete the sorting of the accumulations of miscellaneous material begun the previous year. It was also able to devote considerable time to other special tasks that required attention as a condition to carrying out further plans for reorganization and development. Among these tasks several should be mentioned.

The sets of society publications were checked up and missing numbers listed. Many of these were supplied from the duplicates in the Library of Congress, as has been indicated. It is hoped that most of the others can be obtained by exchange, either from the societies themselves or from other libraries.

The shelves of the main collection were arranged—a task that occupied months, as they had not been arranged in a long time and were in a very confused state. This was preliminary to taking an inventory of the library, which will be begun as soon as the shelf list, on which much progress was made during the year, is finished.

Another activity that required no little time was the preparation of 1,497 volumes for binding. This was more than double the number bound in any year during the previous six years and almost as many as were bound altogether during the previous five years. When these volumes return to the shelves, they will greatly improve the appearance and increase the usefulness of the library.

Preliminary steps toward modernizing and expanding the catalogue were taken—a work that during the coming year will receive special attention, for one of the chief needs of the library now is a dictionary catalogue, both of the main collection and of the sectional libraries.

PHOTOGRAPHIC LABORATORY

The Museum photographic laboratory, with its three employees, reports as its year's work the making of 1,909 negatives, 14,193

prints, 38 cirkut prints, 1,006 lantern slides, 49 enlargements, and 2 transparencies; the development of 580 field negatives, 85 rolls of film, 12 film packs, and 9 cirkut films; and the mounting of 514 prints. These were required for purposes of illustration in publications, or for record in the National Museum and the National Gallery of Art, as the Museum laboratory through a cooperative arrangement also serves the National Gallery along these lines.

BUILDINGS AND EQUIPMENT

Building repairs and alterations.—At the Natural History Building the most important work accomplished was the renewal of 87 lineal feet of worn-out concrete roadway leading to the east service entrance from B Street, at a cost of $1,345; repainting outside metal frames of windows on the first and second floors, including courts; repainting exterior surface of wooden frames and sash on ground and third floor in east and west courts; pointing up joints in stone steps at south entrance; and repairing concrete water table adjoining exterior walls. Minor repairs in various parts of the building consisted largely in painting floors of corridors in the basement, walls and ceilings in certain offices and laboratories, and walls in the auditorium lobby; installation of windshields; changing of radiators; attaching molding for hanging pictures; and similar matters.

In the Arts and Industries Building the wooden floor on the south end of the gallery of the South Hall was removed and terrazzo floor substituted, making this uniform with the floor on the east and west side of gallery and lessening the possibility of fire. Minor repairs were made in many parts of the building, including mechanical devices for opening and closing the windows over the northeast pavilion, repairing and refinishing office floors, and pointing up and painting walls and ceiling in offices and halls. The most important work done on the exterior of the building included repairs and painting of all sash frames below the main roof; replacing worn-out copper downspouts, worn-out wrought-iron snow brakes on roofs, and a section of iron smokestack over blacksmith shop; repainting metal cornices of the eight ranges and four pavilions; and making new wire screens over ventilating openings in large windows in the exhibition halls, besides other miscellaneous jobs.

The most important work undertaken in the Smithsonian Building was the painting of stairs, side walls, and ceilings in the stair hall from the first to fourth floor and remodeling the disbursing office at the east end of the building to afford greater protection to the clerks on pay days.

In the Aircraft Building the door at the main entrance was remodeled and portions of the walls repainted.

In the Freer Gallery of Art the architraves of the opening between galleries 10 and 11 were reset; four loose steps in corridor 4 were grouted; the projecting granite step at the main front was trimmed; and all joints of the main entrance steps were cut out, calked, and repointed. Broken plaster in the women's lavatory and study hall No. 2 was repaired with broken tile work in the first mentioned. The east and west penthouses on the roof were given a dash of stucco.

Heat, light, and power plant.—The power plant, which was closed down for the summer, as customary, was put in operation September 14 and continued until May 29, 1926. Because of the unusual cool weather during the first part of June it was necessary to raise steam and heat the buildings on the 5th. This was a most unusual condition, as it is the second time since the plant was installed that heat has been necessary after May 30.

Electric current for power and light was purchased while the plant was closed from the Potomac Electric Power Co. under contract made by the Treasury Department. At this time the employees were granted the larger portion of their annual leave, while those not on leave were occupied in making necessary repairs. The plant having been in operation for almost 17 years, has reached the point where it will be necessary to spend each year an increasing amount in order to repair and more completely overhaul the machinery. Very little has heretofore been expended on overhauling the engines, but they have now reached a stage that materially affects not only the total load they may carry but the efficiency of operation as well. As a beginning in making needed repairs new exhaust valves have been purchased for the 150-kilowatt generator units, making it necessary to rebore the engine castings to take the new valves which are oversize. In addition, new main supporting pins for the governor arms, together with new bushings and rollers, have been purchased for the three engines, besides two complete dashpots for two of the units. This work should cause a marked improvement in the operation of the engines and materially increase their efficiency.

The current produced during the year was 493,295 kilowatt hours at a cost of 2.32 cents for the kilowatt if interest and depreciation are included. If those items are not included the cost is 1.93 cents for the kilowatt.

The cost of coal by the ton for the year was about the same as for last year, the average being $5.57. The total consumption of coal was 3,465 tons, as against 3,308 tons for the previous year. This was partially due to the fact that though the weather was not severe the cold continued over a longer period.

Following the custom established last year, the Steamboat Inspection Service of the United States inspected the boilers. All the boilers were found to be in very good condition. The new water-

pipe connections made to comply with recommendations last year did not entirely meet the approval of the inspector. The changes suggested will, however, be made before another winter.

To avoid criticism, should accidents occur, it was deemed advisable to have the elevators in the Natural History Building regularly inspected by the building inspector of the District of Columbia. While the elevators complied with the fundamental requirements of the building code of the District of Columbia, there were minor details that did not, so that the required changes were made. At the same time additional safeguards, though not required by the building code, were provided for the freight elevators.

More direct control of the heating and ventilating system in the Freer Building was provided this year by means of new louver dampers and automatic valves. It is now possible to close down the equipment in the Freer Building from the power plant in the National History Building at any time of the year. Heretofore this was possible only in summer, when there was no heat supplied to the building.

The fire-fighting equipment was regularly inspected as usual. The fire extinguishers were all discharged, cleaned, and recharged during the month of June, and the fire plugs were flushed and hose connections examined. The electric fire-alarm stations were operated four times during the year. The electric fire-alarm system in all of the buildings except the Freer Building has been in use for many years and is of open-circuit wiring. It is hoped that at some future date it will be possible to install a closed-circuit system in these buildings similar to that now in use in the Freer Building, because of its greater reliability.

The 5-ton Frick ammonia compressor for the ice plant purchased last year, though received in the latter part of the summer of 1925, was not installed until April, 1926. It was considered inadvisable to close down the old Brunswick compressor long enough to make the installation during warm weather, and with the coming of winter the old machine was sufficiently large to make all the ice required. The arrangement of the machinery has been entirely changed, so that there is more room and the apparatus is more accessible than heretofore. Operation of the new apparatus has proved satisfactory, is much more economical than the old machine, and should produce sufficient ice to meet the requirements of the Museum for several years to come.

The ice plant was operated 2,689 hours during the year, producing a total of 344.1 tons of ice, practically the same as produced last year, but the cost of each ton is materially increased because of the extra cost of installing the new compressor. Repairs and mainte-

nance with item for depreciation total $1,213.10, making the ice cost about $3.51 a ton.

Furniture and fixtures.—During the year there were constructed in the Museum workshop 11 exhibition cases and bases and 117 storage cases and other pieces of laboratory furniture. In addition, 40 pieces of storage, laboratory, and office furniture were purchased. During the same period eight exhibition cases and bases and five pieces of storage, laboratory, and office furniture were condemned and disposed of. On June 30, 1926, there were on hand 3,714 exhibition cases; 12,118 pieces of storage, laboratory, office, and other furniture; 50,779 standard wooden unit drawers; 4,712 metal unit drawers; 982 wooden unit boxes; 203 wooden double-unit boxes; 13,744 standard insect drawers; 713 wing frames; 5,885 special drawers with paper bottoms; and 12,732 special drawers with compo bottoms for mammal and bird storage cases.

MEETINGS AND CONGRESSES

The United States National Museum, in its efforts for the increase and diffusion of knowledge among men, is unable at present to sponsor such educational features as regular lecture courses and musical programs of its own through lack of available funds. The Museum places its auditorium and lecture rooms at the disposal of other organizations with similar interests and assists so far as it can in carrying out their programs, all of which are free to the general public. The meeting facilities were used on 110 occasions from July 1, 1925, to June 30, 1926. The varied interests served and the wide range of subjects discussed will be seen from the following summary of the meetings held in the auditorium and room 43 during the year:

1925

July 20, 8 a. m. (room 43): Class in bird study, George Washington University. Talk by Dr. Paul Bartsch.

September 1, 7.30 p. m. (auditorium): National Soy Bean Growers' Association. One session of their convention in Washington (September 1 to 3). Addresses and an exhibition of motion pictures from the United States Department of Agriculture.

September 10, 2 p. m. (auditorium): United States Tariff Commission. Motion pictures illustrating method used in shipping live birds.

October 1, 8 p. m. (room 43): The Entomological Society of Washington. Illustrated address by Dr. L. O. Howard, "The Third International Congress of Entomology at Zurich"; observations by J. B. Parker on the nesting habits of *Bembix comata* Parker.

October 7, 11.30 a. m. (auditorium): Forest Service, United States Department of Agriculture. Illustrated address by Charles H. Squire, "Recreation and the national parks."

October 13, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

October 20, 4.45 p. m. (room 43): Anthropological Society of Washington. Address by Dr. John M. Cooper, "The Tetes de Boule of the Upper St. Maurice."

October 21, 3.30 p. m. (room 43): Smithsonian staff. Dr. Aleš Hrdlička briefly related his experiences on his extensive trip abroad.

October 26, 11.30 a. m. (room 43): Smithsonian Relief Association. Annual meeting for election of officers.

November 4, 11.30 a. m. (auditorium): Forest Service, United States Department of Agriculture. Address by George H. Cook, "The forests of the southwest," illustrated with motion pictures.

November 5, 3 p. m. (auditorium): Lecture by Georges Piasse, "Making of aquatints in color," illustrated by motion pictures taken in his Paris studio.

November 5, 8 p. m. (room 43): The Entomological Society of Washington. Addresses: "Entomological collections in the museums of Denmark and Sweden," by A. G. Böving; "Odors of male butterflies," by A. H. Clark.

November 7, 8 p. m. (auditorium): Associate Alumnae of Vassar College. One session of annual meeting in Washington (November 6 and 7).

November 10, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

November 16 and 17, all day (auditorium): Federal Horticultural Board, United States Department of Agriculture. Public hearing on quarantine restrictions as to entry of narcissus and certain other bulbs.

November 17, 4.45 p. m. (room 43): Anthropological Society of Washington. Lecture by Dr. Aleš Hrdlička, "Ancient man in the Far East."

November 17, 8 p. m. (room 43): American Horticultural Society. Address by George C. Rodey, "The plants and forests of California."

December 2, 11.30 a. m. (auditorium): Forest Service, United States Department of Agriculture. Illustrated lecture, "Educating farmers on the production of forestry," by George H. Collingwood.

December 3, 8 p. m. (room 43): The Entomological Society of Washington. Business meeting and an illustrated address by N. E. McIndoo, "An insect 'olfactometer' and senses of the boll weevil."

December 5, 11 a. m. (room 43): Illustrated address on the collections in the National Gallery of Art, by Dr. Gertrude R. Brigham.

December 8, 8 p. m. (room 43): American Horticultural Society. Business meeting, with illustrated address on ferns, by Peter Bisset.

December 9, 3.30 p. m. (room 43): National Park Association. Meeting of trustees.

December 12, 2.30 p. m. (auditorium): The Federation of Music Clubs of the District of Columbia. Concert by the affiliated Junior Clubs, including program of music, children's songs, and dances.

December 15, 4.45 p. m. (room 43): Anthropological Society of Washington. Address by W. H. Jackson, "With the Pawnee Indians 50 years ago."

December 18, 8 p. m. (room 43): The Vivarium Society. Talk by Dr. William M. Mann on his experiences with the Mulford expedition.

December 30, 1.30 p. m. (room 43): Exhibition of motion pictures of waterfalls in Newfoundland, by Mr. Fissell.

1926

January 7, 8 p. m. (room 43): The Entomological Society of Washington. Addresses: "Plant resistance to insect injury," by W. H. White; "The odors of male butterflies," by Austin H. Clark.

January 12, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

January 14, 8 p. m. (room 43): The Wild Flower Preservation Society (Inc.). Business meeting, with talk by Gustave A. Gambs on his trips in the Canadian Rockies.

January 15, 8.30 p. m. (auditorium): School of Foreign Service of Georgetown University. Lecture by Dr. Edmund A. Walsh, regent of the school, "The origin and nature of the modern state." The first of a series of 15 lectures on the American Constitution and ideals compared with the communist ideal as manifested in Bolshevism.

January 18 to 21 (auditorium and room 43): Second Industrial Conference of Women, under the auspices of the United States Department of Labor. Sessions from evening of January 18 through afternoon of the 21st. The initial session was presided over by Miss Mary Anderson, director of the Women's Bureau of the Department of Labor, and the program included a letter from President Coolidge, addresses by Hon. James J. Davis, Secretary of Labor; Mrs. John Jacob Rogers, Member of Congress from Massachusetts, and Mrs. Julius Kahn, Member of Congress from California, with music by the United States Marine Band.

January 22, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. Edmund A. Walsh, "The American concept of the state—the right of a people to revolt."

January 25, 2 p. m. (auditorium): The Twentieth Century Club. Address by Mrs. Porter R. Chandler on the National Gallery of Art.

January 26, 8 p. m. (room 43): American Horticultural Society. Business meeting, with election of officers.

January 28, 8 p. m. (auditorium): Audubon Society of the District of Columbia. Annual meeting, with illustrated lecture by Herbert W. Brandt, of Cleveland, Ohio, "Experiences of an ornithologist in Alaska."

January 29, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. Edmund A. Walsh, "Early revolutionary movements in Russia."

February 1, 11.30 a. m. (auditorium): Forest Service, United States Department of Agriculture. Addresses by 10 members of the Forest Service on their experiences while in the service.

February 4, 8 p. m. (room 43): The Entomological Society of Washington. Address by retiring president, R. A. Cushman, "Some types of parasitism among the Ichneumonidae." Illustrated address by F. C. Craighead, "Forest insects, pine beetles, Dendroctonus sp."

February 5, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. John H. Latane, professor of American history at Johns Hopkins University, "Fundamental causes of the American Revolution."

February 6, 8 p. m. (auditorium): The Art and Archaeological League of Washington. Illustrated lecture by Dr. Aleš Hrdlička, "Ancient man and the races of the Far East."

February 9, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

February 9, 8 p. m. (room 43): American Horticultural Society. Illustrated lecture on bulbs, by Dr. David Griffiths.

February 11, 8 p. m. (room 43): The Wild Flower Preservation Society (Inc.). Illustrated address by Donald C. Peattie, "Wild flowers and the sand dunes of Indiana."

February 12, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. John H. Latane, "The alliance of France and America."

February 16, 4.45 p. m. (room 43): Anthropological Society of Washington. Address by Dr. C. Hart Merriam, "The Pitt River Indians of California."

February 19, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. John H. Latane, "The winning of independence and the establishment of national boundaries."

February 20, 8 p. m. (auditorium): Smithsonian Institution. Illustrated lecture by Henri Correvon, of Geneva, Switzerland, "Alpine plants and their use in rock gardens."

February 22 and 23 (auditorium): Department of Superintendence of the National Educational Association. During the Washington convention of the association (February 21 to 26) the city training school section held an afternoon session in Museum on February 22, and morning and afternoon sessions on February 23.

February 23, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

February 26, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. John H. Latane, "The spirit and ideals of the American Revolution."

March 3, 11.30 a. m. (auditorium): Forest Service, United States Department of Agriculture. Exhibition of motion pictures illustrating the preservation and destruction of forests.

March 4, 8 p. m. (room 43): The Entomological Society of Washington. Addresses: "Memories of a veteran entomologist," by V. L. Kellogg; "Some books from the Dognin collection," by Dr. William Schaus; and "What is parasitism in insects," by R. A. Cushman.

March 5, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. James M. Beck, former Solicitor General of the United States, "The spirit and ideals of the American Constitution. I. We, the people of the United States, to form a more perfect union."

March 9, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

March 9, 8 p. m. (room 43): American Horticultural Society. Illustrated address by Dr. Charles A. Weigel, "Combating insects."

March 11, 8 p. m. (room 43): The Wild Flower Preservation Society (Inc.). Illustrated address on wild flowers, by Dr. E. T. Wherry.

March 12, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. James M. Beck. "The spirit and ideals of the American Constitution. II. To establish justice."

March 16, 4.45 p. m. (room 43): Anthropological Society of Washington. Annual meeting, with election of officers.

March 17, 3.30 p. m. (room 43): Class in parasitology. Howard University. Lecture by Dr. Paul Bartsch.

March 17, 8.30 p. m. (auditorium): The Archaeological Society of Washington. Illustrated lecture by Dr. Edward Chiera, of the University of Pennsylvania, "The family of Tehib-Tilla and the excavations at Kirkuk."

March 19, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. James M. Beck, "The spirit and ideals of the American Constitution. III. To insure domestic tranquillity, provide for the common defense, promote the general welfare."

March 19, 8 p. m. (room 43): The Vivarium Society. An account, by E. J. Court, of a collecting trip to Florida for birds' eggs.

March 25, 3.30 p. m. (room 43): Class in parasitology, Howard University. Lecture by Dr. Paul Bartsch.

March 26, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. James M. Beck, "The spirit and ideals of the American Constitution. IV. And secure the blessings of liberty to ourselves and our posterity."

April 1, 3.30 p. m. (room 43): Class in parasitology, Howard University. Lecture by Dr. Paul Bartsch.

April 1, 8 p. m. (room 43): The Entomological Society of Washington. Biological notes on Haitian Anophelines, by W. A. Hoffman; notes on the habits and development of the Azalea leaf miner, by B. M. Broadbent.

April 3, 9.30 a. m. (room 43): The Wild Flower Preservation Society (Inc.). Illustrated talk by P. L. Ricker, on wild flowers, before visiting students from the University of Pennsylvania.

April 6, 3 p. m. (auditorium): Extension Service, United States Department of Agriculture. Exhibition of the department's educational motion picture, "Man and horse."

April 7, 11.30 a. m. (auditorium): Forest Service, United States Department of Agriculture. Exhibition of motion pictures illustrating map making.

April 7, 3.30 p. m. (auditorium): Exhibition of motion pictures of swan, by Dr. Alexander Wetmore.

April 7, 8.30 p. m. (auditorium): Lecture by Prof. William A. C. Zerffi, of New York City, "Fact and folly in the world of song."

April 8, 8.30 p. m. (room 43): Class in parasitology, Howard University. Lecture by Dr. Paul Bartsch.

April 9, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. John H. Latane, "The critical years of the Confederation, 1781–1789."

April 10, 8 p. m. (auditorium): Audubon Society of the District of Columbia and the Biological Society of Washington. Illustrated address by Dr. Alfred O. Gross, of Bowdoin College, "The jungle life of Panama."

April 12, 4.30 p. m. (auditorium): Audubon Society of the District of Columbia. Illustrated lecture by Dr. Alexander Wetmore, "Bird migration."

April 13, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

April 13, 8 p. m. (room 43): American Horticultural Society. Illustrated lecture by Dr. H. L. Shantz, "From Cape to Cairo."

April 15, 8 p. m. (room 43): The Wild Flower Preservation Society (Inc.). Address by P. L. Ricker, "Wild flowers of our National Parks."

April 16, 8 p. m. (room 43): The Vivarium Society.

April 20, 4.45 p. m. (room 43): Anthropological Society of Washington. Annual meeting with address by Dr. Walter Hough, "A half century of Pueblo archeology."

April 20, 8 p. m. (room 43): The Entomological Society of Washington. Illustrated lecture on fossil insects, by Dr. R. J. Tillyard, of the Cawthorn Institute of Scientific Research, Nelson, New Zealand.

April 21, 11 a. m. (auditorium): The public schools of the District of Columbia. An assembly of school children, arranged by the nature study corps in observation of American Forest Week (April 18 to 25), with address on "Forestry" by Hon. Scott Leavitt, Member of Congress from Montana, illustrated by motion pictures.

April 21, 8 p. m. (auditorium): Washington Society of Engineers. Illustrated address, "Irrigation in Egypt," by the Minister from Egypt, Mahmoud Samy Pasha, and exhibition of United States Forest Service motion picture entitled "What the forest means to you."

April 30, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. Edmund A. Walsh, "Russia at the close of the eighteenth century and present day conditions in England, France, Italy, Greece, and Rumania."

May 6, 8 p. m. (room 43): The Entomological Society of Washington. Addresses: "Sex forms of honey bees," by W. J. Nolan; and "Insects change building code," by T. E. Snyder.

May 7, 11 a. m. (room 43): Smithsonian Institution. Illustrated lecture on the island of Java, by Rollin R. Winslow, United States consul at Soerabaya, Java.

May 7, noon (auditorium): Third national oratorical contest. Preliminary competition in which three speakers participated, representing the high schools in upper Virginia and in three near-by Maryland counties, and the parochial and private schools of the District of Columbia. The contestants were Miss Barrett, of Alexandria, B. Meeks, and Joseph Haltigan.

May 7, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. Edmund A. Walsh, "The constitution of Soviet Russia and the Constitution of the United States."

May 8, 10 a. m. (room 43): Girl Scouts. Meeting under leadership of Dr. Paul Bartsch.

May 9, 9.30 a. m. (auditorium): National League of Girls Clubs (Inc.), Business meeting, in connection with fourteenth biennial convention in Washington (May 7 to 9).

May 11, 4.45 p. m. (room 43): Society for Philosophical Inquiry.

May 11, 8 p. m. (room 43): American Horticultural Society. Business meeting.

May 14, 8.30 p. m. (auditorium): School of Foreign Service. Lecture by Dr. Edmund A. Walsh, "Communism and democracy."

May 21, 10 a. m. (room 43): Federal Horticultural Board, United States Department of Agriculture. Conference on treatment of narcissus bulbs imported for propagation.

May 21, 8 p. m. (room 43): The Vivarium Society.

May 28, 3 p. m. (auditorium): Veterans of Foreign Wars of the United States, Federal Post No. 824. Memorial services for employees of the Department of Agriculture who lost their lives in the World War. Address by Hon. Hamilton Fish, and music by the Navy Band.

June 2, 10 a. m. (room 43): Federal Horticultural Board, United States Department of Agriculture. Hearing on advisability of interstate quarantine of narcissus bulbs.

June 3, 8 p. m. (room 43): The Entomological Society of Washington. Illustrated addresses: "Louisiana," by Percy Viosca, jr.; and "The exhibit of the United States Bureau of Entomology at the Sesquicentennial," by J. A. Hyslop.

June 4, 8 p. m. (auditorium): Carnegie Institution of Washington, Washington Academy of Sciences, the Biological Society of Washington and the Smithsonian Institution. Illustrated lecture by Dr. Johannes Schmidt, director of the physiological division, Carlsberg Laboratories, Copenhagen, Denmark, "Danish oceanographic expeditions—Eel investigations."

June 15, 8 p. m. (room 43): American Horticultural Society. Business meeting.

June 17, 8 p. m. (auditorium): Finals in second annual national spelling bee, organized by the Courier-Journal of Louisville, Ky. First prize was won by Miss Pauline Bell, of Clarkson, Ky.

June 18, 8 p. m. (room 43): The Vivarium Society.

June 30, 2 p. m. (auditorium): Exhibition of James B. Vreeland, jr. Production films depicting exciting big game fishing in Florida.

June 30, 3.10 p. m. (room 43): Demonstration by Capt. James B. Vreeland, jr., of his special picture machine.

Receptions.—The only receptions this year were those held in that portion of the Natural History Building occupied by the National Gallery of Art.

The special loan exhibition of early American portraits, miniatures, and silver assembled for the National Gallery by the Washington Loan Exhibition Committee, Mrs. William Corcoran Eustis, chair-

man, was opened with a private view on December 5, 1925, from 9 to 11 p. m. The exhibition, which was installed in the main and south gallery rooms, was the occasion for several gatherings of friends of the Smithsonian Institution and of the National Gallery. The Washington Loan Exhibition Committee received the Washington Federation of Women's Clubs in the gallery on January 5, from 2 to 4.30 p. m., when Mrs. Ellis Logan, chairman of the fine arts department of the federation spoke on early American portraits, and other short talks were given. On January 12, the loan exhibition committee received the Congressional Club of Washington, and on January 25, the Twentieth Century Club. On January 15, Secretary and Mrs. Walcott received a delegation of prominent club women in the gallery from 3.30 to 4.50 p. m.

The exhibition of modern Italian art, under the patronage of His Majesty the King of Italy, organized by the Italian Ministry of Public Instruction and exhibited under the auspices of the Italy-America Society, was opened in the National Gallery of Art with a special view on March 25, 1926, from 3 to 5 p. m.

CHANGES IN ORGANIZATION AND STAFF

The organization of the National Museum during the year has remained as in the preceding year with but few changes in the scientific staff.

Dr. Casey A. Wood, who has been a valued contributor to the Museum for some years, was given honorary appointment as collaborator in the division of birds on January 9, 1926. Dr. H. H. Bartlett, director of the botanical garden of the University of Michigan, was likewise appointed collaborator in the division of plants for two years from March 17, 1926. He will collect specimens in Formosa and Sumatra on behalf of the two institutions mentioned. Dr. William H. Longley, of Goucher College, acting director of the Tortugas Marine Biological Laboratory, who is working in close cooperation with the Museum, was made collaborator in the division of marine invertebrates on March 20, 1926. The honorary appointment of Dr. George Grant MacCurdy as collaborator in the department of anthropology was extended for one year beginning February 14, 1926.

On the paid staff, Earl D. Reid was promoted from clerk to aid in the division of fishes, on August 1, 1925. The aid in the division of history, Miss Hortense Hoad, severed her connection with the Museum by resignation on January 31, 1926. Shortly afterwards this position was abolished and a clerkship established to advance the record work of the division.

Miss Isabel L. Towner was appointed assistant librarian of the Museum in January, 1926, succeeding the late N. P. Scudder in charge of the Museum library.

Neil M. Judd, curator, division of American archeology, returned from furlough on October 23, and was, in the spring, again granted leave without pay, May 24 to October 30, 1926, for work in the West under the auspices of the National Geographical Society. Paul C. Van Natta, aid in the division of physical anthropology was, on September 28, 1925, granted leave of absence without pay during the scholastic year and on May 6 resigned. T. Dale Stewart again temporarily filled this position until the end of May, and on June 1 Millard F. Ottman was temporarily appointed to the place.

Carl W. Mitman, curator of the divisions of mineral and mechanical technology, was furloughed for six months beginning May 1, 1926, to enable him to assist in the planning of an industrial museum for New York City. Mr. Mitman, however, continues general oversight of the activities of the divisions of mineral and mechanical technology.

Capt. Charles Carey, assistant curator in the division of history, who was absent at the beginning of the fiscal year, returned from furlough on September 15. Captain Carey took advantage of his visit to Europe to inspect historical, and war and peace museums to broaden his background for building up the military collections in the National Museum. Likewise, F. A. Taylor, aid in the divisions of mineral and mechanical technology, was granted leave without pay from August 19 to September 18 to enable him to gain practical experience along lines of his Museum work.

Within the watch force the annual turnover becomes steadily greater, and is one of the most perplexing problems in connection with the maintenance of the Museum buildings. There are two reasons for this condition—low pay and inadequate force. As at present constituted the watch force consists of 1 captain, 3 lieutenants, 1 sergeant and 62 privates—in all 67 men, but it is rarely up to that number. With the low rate of pay it is difficult to procure reliable men who are content to remain on the force, and when a satisfactory man is obtained, he frequently leaves soon, when he can better his condition. It must not be thought that the force is inefficient, for that is not the case. Many of the men have been on the staff for years and are both efficient and loyal. Efforts have been made to secure funds necessary to increase the salary rate and to provide for the needed additional members of the force, and these efforts will be continued until relief is had.

Dr. Brayton H. Ransom, assistant custodian of helminthological collections of the Museum since January 5, 1905, died September 17, 1925, after a brief illness. Doctor Ransom's connection with the Government service began in 1902, and in 1906 he was appointed chief of the zoological division of the Bureau of Animal Industry of the Department of Agriculture, a position he held at the time

of his death. Under Doctor Ransom's direction the zoological division built up a laboratory known the world over for its large output of high-grade scientific and practical work in the field of parasitology, in which his personal researches were of the highest value. Dr. Maurice C. Hall, his associate and successor in the Department of Agriculture, was appointed on October 20 to succeed him in the honorary position of assistant custodian of the helminthological collections of the Museum.

The other deaths in the Museum force this year were: J. H. Williams, laborer, on September 4, 1925; Henry Gibson, laborer, November 21; Sylvester W. Baldwin, laborer, December 24; John E. Johnson, watchman, March 26, 1926; and Marston R. Carey, mail carrier, April 1, 1926.

The flags on the several Museum buildings were flown at half mast on July 30, 1925, out of respect to Hon. William Jennings Bryan, ex-Secretary of State, who was on that date buried in Arlington National Cemetery; and on August 8 to 10, out of respect to Judge George Gray, a Regent of the Smithsonian Institution, who died in Wilmington, Del., on August 7, 1925.

DETAILED REPORTS ON THE COLLECTIONS

REPORT ON THE DEPARTMENT OF ANTHROPOLOGY

By Walter Hough, *Head Curator*

INTRODUCTION

The progress of anthropology depends largely upon explorations to furnish material for scientific investigations and for its contributions to museum science. Unusual activity of this kind was prosecuted during the year in several widely separated fields. Through the Bureau of American Ethnology three of the members of the force engaged in special explorations: Dr. Ales Hrdlicka, curator of physical anthropology, visited the territory of the Bering Strait Eskimo in a study of Asiatic migrations into America; Herbert W. Krieger, curator of ethnology, engaged in archeological and ethnological work on the Columbia River and in southeastern Alaska; and Henry B. Collins, jr., assistant curator of ethnology, carried on investigations in archeological work in Louisiana. Neil M. Judd's archeological field work at Pueblo Bonito, N. Mex., under the National Geographic Society is expected to reach its conclusion with the present season and will then constitute one of the greatest accomplishments in this line that has yet been carried on in this country.

There is also included in this year, in part, extensive travel in India, Ceylon, Java, Australia, and South Africa by Doctor Hrdlicka, from which many benefits have accrued to the Museum.

ACCESSIONS FOR THE YEAR

Accessions in this department for the year numbered 124, 8 more than in the previous year, while the number of specimens added totaled 4,223, against 4,444 in 1924–25.

In ethnology the countries of origin of specimens were the United States, East Indian islands, the Philippines, China, India, South Africa, and Australia.

As a rule purchases of specimens bring much of value to the Museum, as selection is made in accordance with the needs of the collections. A valuable collection obtained by purchase comes from western China and Tibet, from material collected by Rev. David C. Graham, who was able to supply accurate information regarding the individual specimens from notes taken in the field. The accession

aids materially in completing the Museum collection from the Miao aborigines, from whom earlier material had been secured through the generosity of the National Geographic Society.

A most valuable accession was the loan of 91 pieces of Moro brass work by Maj. Edward D. W. Dworak, who for several years was provincial governor in Mindanao and had opportunity to obtain what is undoubtedly the best collection of Moro brass work in existence.

A large number of patent models dealing with the interests of the department were selected for preservation from material about to be dispersed by the Patent Office. These were secured by the division of ethnology to preserve advances in invention, and are of value for future exhibition.

To the officers of the United States Army and Navy much credit is due as individual collectors of ethnological objects, so far as gift and loan accessions to the Museum are concerned. Many of the collections thus obtained are from outlying Army posts, chiefly in the Philippine Islands. If all Government representatives in foreign lands were equally active for this and other divisions of the United States National Museum the institution would indeed be fortunate. Certain bureaus, such as the Bureau of American Ethnology, deserve credit for the interest shown in the Museum, but it is rare for an individual agent of the Government on his own initiative to develop the collecting habit. The number of specimens formerly received from the various Government agencies was many times the number of objects received within recent years from the same sources. It is felt that much could be done toward increasing the collections through the cooperation of different Government bureaus.

Gift collections were as numerous and as extensive as during the preceding year and indicate an excellent interest on the part of the public.

Among accessions in ceramics may be mentioned a Staffordshire plate of 1750 to 1760, gift of Mrs. J. M. Curran; a bowl and pitcher, Davenport, 1830, gift of Mrs. John L. H. Sawyer; an English luster porcelain teacup and saucer, gift of Mrs. James B. Frow; a Satsuma vase from the estate of Mrs. Helen Gardener; a pair of Satsuma vases and a Chinese bowl, gift of Dr. George W. Johnston; and an Italian faience platter with figures, gift of Miss L. Lieberman.

In a small way for a number of years there has been effort to secure representative pieces of modern art pottery by American craftsmen to form a record of the rapid progress of the ceramic art in this country. The difficulty of collecting after the period of supply is well known. At present there is a bright prospect of securing current art pottery through the kind offices of the American Ceramic

Society, an organization of 2,000 members alive to the need of collecting now for historical use later.

Accessions in art textiles were smaller in number of specimens than last year but comprise gifts wholly comparable in value with last year's receipts. The specimens were put on exhibit and the collection maintained at a high standard of display. The death of Mrs. H. K. Porter, a patron of the Museum interested in this particular field, was a much regretted loss. Mrs. Porter's splendid collection of laces by the direction of her daughter, Miss Hegeman, still remains as one of the chief exhibits attracting much attention.

Notable among additions received during the year were a rose point French collar and cuffs of 1790, worn by Princess Caroline Murat at the court of Napoleon III, donated by Miss Mary Harrold and Mrs. Carolina Harrold (W. P.) Chase; two flounces of French point and a veil given by Mrs. Margaret M. Gale; four pieces of rose point and point de Venise lace given by Mrs. Henry B. Noble through Miss Mary Worthington Birnie; a silver pap bowl made about 1850, given by Dr. George W. Johnston; a lavender silk crepe shawl, gift of Mrs. Julia A. Lillie; and a silk crepe embroidered shawl given by Mrs. T. E. Wetmore.

American archeology reports several collections worthy of notice, as follows: A jadeite carving, probably from the State of Oaxaca, Mexico, presented by Señor Emilio Mosonyi, Mexico City; 105 specimens collected by J. C. Clarke in Young's Canyon, Ariz.; and received as a transfer from the Bureau of American Ethnology; 46 specimens of pottery, stone, and shell, exhumed from prehistoric ruins in New Mexico by Monroe Amsden, under the supervision of Neil M. Judd, and received as a gift from the National Geographic Society, Washington, D. C.; two prehistoric wooden carvings found in the swamps of western Florida and presented by George Kinzie, Fort Myers, Fla.; 64 objects, some of European origin, collected by Henry B. Collins, jr., from Choctaw and other Indian village sites at various localities in Mississippi and transferred by the Bureau of American Ethnology; and a beautifully carved miniature stone mask from Mexico, presented by Prof. W. H. Holmes.

In the division of Old World archeology the additions which may be especially mentioned include finely made casts of gems to illustrate Graeco-Roman mythology, and a number of Chinese and Tibetan religious objects which fill gaps in the series from these regions. Considerable additions to archeological material of the Archæological Society of Washington, excavated in France by students of the American School of Archeology under the direction of Prof. George Grant MacCurdy, were received. The material is deposited in the Museum awaiting final study and publication.

Among accessions to be especially brought to attention in physical anthropology Australian skeletal material received in exchange from the Adelaide Museum, consists of the complete skeleton of a native, two skulls showing primitive traits, and three casts of lower jaws; one skull and three fragments of lower jaws of Australians, and samples of hair from the same people, collected by Dr. Aleš Hrdlička; and two Australian skulls, gift of Dr. Arthur R. Pulleine, Adelaide. There were also received 19 lots of skeletal material collected in Florida by Dr. J. W. Gidley, and miscellaneous skeletal material collected in Mississippi by Henry B. Collins, jr., transferred from the Bureau of American Ethnology; three skulls and six lower jaws from Hawaii, collected by Dr. Truman Michelson; five specimens of skeletal material from Pueblo del Arroyo, gift of the National Geographic Society, Washington, D. C.; and a cast of a neanderthaloid skull, presented by the Instytut Nauk Antropologicznych, Warsaw, Poland.

INSTALLATION AND PRESERVATION OF COLLECTIONS

In the ethnological collections there was much activity, and where new accessions made possible new or better exhibits, appropriate changes of arrangement and material were made. In certain cases entire exhibit units were removed and new material was substituted. Loans of exhibits and of exhibit material to sundry governmental and private organizations were made on various occasions throughout the year, necessitating much rearrangement. In fact the removal of exhibits and of cases from the Museum floors was of such an extent as to allow for a general shifting of exhibits for the division, looking toward their more logical arrangement.

The present status of the study collections is better than ever before to the extent that nearly 80 additional metal covered dust-proof wooden storage cases have been installed. Twenty-six oil paintings of Indian subjects belonging to the division have been professionally restored.

The collection of musical instruments was rearranged and the cases repainted. The Worch collection illustrating the history of the piano, now approaching completeness, is believed to be the best extant dealing with this subject. It is to be regretted that present facilities do not permit its more adequate display.

As opportunity permitted, general plans formulated several years ago for the rearrangement of exhibits and the consolidation of the secondary, or study, series in American archeology were still further developed. Work on the division's catalogue records progressed satisfactorily. There remains, in this connection, much to be done in identifying wrongly numbered specimens, completing cards im-

properly or inadequately prepared, and in furthering a considerable undertaking mentioned in our last annual report, namely, assemblage of an indexed list to collectors.

Eight State collections on exhibition have been rearranged and provided with descriptive labels. Labels were written and installed in several exhibits. With the recent transfer to this division of the group of Indians at work on arrow points in the Piney Branch quarry there is now a commanding point of interest about which the various unit collections may be geographically arranged. Museum visitors have come to expect models and lay-figure groups illustrating the arts and industries of primitive peoples. With installation of two life-size figures, each occupying a single, small case and representing, respectively, a cliff-dweller artist, and a prehistoric hunter of the southeastern United States, the hall of American archeology has been brought closer to the average visitor, a circumstance already indicated by the increased attendance. The Piney Branch group just mentioned will add even more of popular appeal. Before another year has passed a household group representing ancient cliff-dweller life, now under construction by Mr. Egberts, should be ready for installation. Such figures have long been needed to "humanize" archeological collections that alone quite naturally do not immediately attract the attention of the average visitor.

A collection of Egyptian deities and amulets was arranged in one of the Egyptian wall cases in the division of Old World archeology. Another collection of Greek vases (lekyths), also found a place in one of the wall cases, while a set of antique glassware, Greek terra cottas, and pottery and a series of Greek marbles, representing Homer, Sophocles, and Demosthenes were installed. Three table cases were added to the exhibit, to contain, respectively, a collection of casts of gems, prehistoric stone implements from North and South Africa, and a collection of Solutrean material (stone and bones) from France. Additions were made to the exhibit from Tasmania, the collection of Mediterranean pottery, and of ecclesiastical art.

In physical anthropology two new exhibits have been installed on the third floor, showing normal variations of ribs and lower jaws. The Ohio collection of human material has been cleaned and is in process of being catalogued. Some of the storage racks which showed signs of sagging have been reinforced. A large number of standard storage drawers were received, making more apparent the need for new racks for economic handling of the drawers.

The anthropological laboratory, under the direction of W. H. Egberts, actively engaged in the modeling of figures and groups for archeology, readjusted certain of the family groups in the Museum, and completed a great amount of work in repairing, casting, painting, and other rountine and emergency jobs.

INVESTIGATION AND RESEARCH

Research on collections within the division of ethnology by members of the staff was limited by routine work, by absences from the Museum during field work for the Bureau of American Ethnology and by studies under the supervision of other divisions. Collections in other divisions have absorbed considerable time and interest of the staff. Research by the curator included a study of the Dr. W. L. Abbott collection from the islands lying south and east of Sumatra; weapons and armor from the Philippine Islands; collections of objects from southeastern Panama; and objects from the northwest coast of North America. With the exception of the Abbott collections referred to and the northwest coast material, the work on each of the collections named has been completed and the objects restored to their respective storage or exhibit cases. It is hoped that the study of the Abbott collection will be completed within the year.

A report by the curator of American archeology on archeological observations made for the Bureau of American Ethnology in Utah and Arizona during 1915–1920 was submitted early in the spring of 1925. It is now in page proof and should be available for distribution within a few months. The collections resulting from these researches are already accessioned as transfers to the National Museum from the Bureau. As opportunity permitted, the curator in this division devoted attention to the material received from the National Geographic Society's explorations in New Mexico, collections which are shortly to be presented and reported upon.

Research in the division of Old World archeology was carried on by Doctor Casanowicz on the subject of charms and amulets. He has also gathered much material for a handbook on the collections of the principal religions of the world.

In physical anthropology the curator's researches have been largely upon material gathered during his recent trip to the Far East. Henry B. Collins, jr., assistant curator of ethnology, conducted an investigation on the pterion.

Research projects of outside investigators in ethnology were materially aided through availability of Museum material, particularly the division's photographic files, which have been materially increased in usefulness through the generosity of the business office of the Museum in providing additional storage cases. Several students of the history of agriculture, among them D. C. Peattie, spent a few days studying material in the division concerning primitive American agriculture. A number of inquiries concerning the tuning and stringing of dulcimers were replied to through information furnished by Mr. Worch. Many requests for assistance in obtaining study

and copy material came from the daily press and from periodical magazines. Such outside investigators were interested primarily in the diffusion rather than in "the increase of knowledge among men."

Loans of specimens regularly made were 10 in number and reached a total of 79 articles.

In American archeology Karl Ruppert and Frank H. H. Roberts, jr., graduate students at Harvard University and assistants to the curator in his archeological investigations under the auspices of the National Geographic Society, devoted brief periods during the year to detailed study of certain series of objects in the Pueblo Bonito collection.

In the division of Old World archeology R. W. Smith, of Oxford and Princeton Universities, studied the collection of Graeco-Roman pottery and made drawings of some of the vases to use in a publication. Dr. Ernest Langholz, of Heidelberg, Germany, examined the collections of Graeco-Roman pottery and bronzes. Dr. N. Reich, professor of Egyptology at Dropsie College, Philadelphia, examined the Egyptian collection. Renold Peathe, of Lee Heights, Rosslyn, Va., studied the Swiss Lake dwelling exhibits.

Among various investigations conducted by others than staff members in the division of physical anthropology may be mentioned the study by William E. Ossenfort, of Washington University, St. Louis, on the atlas in the white and negro races in connection with which 19 atlases of negroes were lent. Dr. C. J. Connelly of Catholic University carried on studies extending over a period of several months on the location of the nasion, using skulls in the collection. Father Miezvinis, a Lithuanian priest, also from Catholic University, used literature in the division to further studies in his own and related peoples. Miss Ethel Clarke, of the Peabody Museum, Harvard University, spent two days in the division studying western and southwestern human crania.

Assistance by the division of ethnology to other governmental bureaus and to private agencies was frequent. The Bureau of Fisheries was aided through the division's ability to identify certain objects found floating in ocean currents. Patent Office examiners were assisted in several instances in identifying priority of inventions through examination of exhibit material. Objects were loaned to the National Park Service of the Department of the Interior for use during a special exhibit at the Department of the Interior Building. The Department of Agriculture office of motion pictures was aided through the loan of material illustrating agricultural practices of the Mandan Indians. A large painting of an East Indian jungle scene was lent to the National Zoological Park for display in the office of the director. Moses B. Cotsworth, of the International Calendar Reform League, was supplied with data and publications

regarding primitive calendar systems. The American Folk Dance Society obtained the loan of several Navaho blankets. The late Dr. W. E. Safford, of the Department of Agriculture, received for study purposes the loan of several lots of native American beans. Doctor Safford was able to identify and classify several hitherto unknown varieties. Two large tanned skins of buffalo and of cow, with hair intact, were lent to the Newark Museum Association to be displayed in the association's leather exhibit to illustrate aboriginal Indian methods of tanning leather. The loan of two lay figures, a Tibetan man and a Mongolian man, was made to the Bureau of Commercial Economics to be displayed during the presentation of a play introducing central Asian scenes and characters. A series of objects illustrating the old whaling industry was loaned to Wanamaker's Auditorium, New York City, for temporary exhibition purposes. Several primitive musical instruments were lent to the Carnegie Public Library, Washington, D. C., for display in the reading rooms. Lantern slides were lent on various occasions to illustrate lectures on native Indian life. A total of 14 lots of material was received for examination and report.

Twenty-six lots of material were sent to the division of American archeology for identification.

Prehistoric specimens were lent by the division of Old World archeology to Mrs. Mitchell Carroll, Dr. A. Hrdlička, and Dr. Truman Michelson for the purpose of illustrating class lectures at George Washington University. Specimens of Greek sculpture were lent to the Bureau of Mines to use at the Sesquicentennial Exposition in illustration of the use of minerals in the fine arts. Photographs of Greek vases were made for Dr. Ernest Langholz, of Heidelberg, Germany, and a photograph of lacustrine cereals and textiles was furnished to Renold Peathe, of Lee Heights, Rosslyn, Va. Eleven lots containing 12 specimens were received for identification.

The following, among others, called upon the curator of physical anthropology during the year for consultation, direction, or advice upon their special subjects. Dr. John H. Cassity, of St. Elizabeths Hospital; Prof. E. Wood-Jones, of the department of anatomy, University of Adelaide; Dr. Henry H. Libby, of Boston; Dr. Samuel J. Lewis, of Detroit; Dr. Sabin Manuila, of Rumania; Dr. Josip Rasuhin, of Zagreb, Jugoslavia; Robert Ehrich, of New York; Dr. Weston Price, of Cleveland; Dr. Mitsuru Okada, of the University of Tokyo; and Dr. R. W. Corwin, of Colorado. The well-known magician, Houdini, submitted to having his anthropometric measurements taken. The following were given instruction in taking anthropometric measurements: Dr. W. E. Gifford, of the Museum of Anthropology, San Francisco; Dr. Gilbert Dalldorf, of Brooklyn;

and Dr. Horace Gray, of the Santa Barbara Clinic. Six lots of material were received for identification.

The curator of physical anthropology at the invitation of Dr. John C. Merriam, president of the Carnegie Institution of Washington, participated in a discussion on the formation of a program of further research in the field of human metabolism. He read a paper before the American Philosophical Society on the "Peopling of the earth," and at a meeting of the same society prefaced a symposium on "Early American civilizations." A few days before leaving for Alaska he spent four days at Ellis Island for the purpose of instructing two of the doctors stationed there in the taking of anthropometric measurements of immigrants. This trip was conducted under the auspices of the Public Health Service.

DISTRIBUTION AND EXCHANGE OF SPECIMENS

Two exchanges, totaling six specimens, were made by the division of ethnology, in which in one case the division received the benefit while in the other the equivalent came to the division of paleontology of the Museum. A total of 169 specimens were presented to seven different institutions, and three withdrawals of loan collections on exhibit, amounting in all to 55 specimens, are recorded. Specimens to the number of 79 were lent to various organizations, and were distributed in 10 different lots.

In the division of American archeology the following exchanges were made during the fiscal year: The public museum, library, and art gallery of South Australia, Adelaide, Australia, 119 archeological specimens in exchange for skeletal material accessioned in the division of physical anthropology: M. Reygasse, Tebessa, Algeria, 22 obsidian implements in exchange for stone implements from North Africa, recorded in the division of Old World archeology; R. T. Pettigrew, Sioux Falls, S. Dak., two exchanges of 97 stone implements and similar material and 125 archeological specimens for fossil wood accessioned in the department of geology; and B. H. Whittle, Augusta Road, Hobart, Tasmania, 51 stone implements in exchange for archeological specimens from Australia, accessioned in the division of Old World archeology. Twenty-one archeological specimens were lent to the National Park Service for exhibition in their Washington offices. One hundred and three stone implements were forwarded to Hood College, Frederick, Md., as a gift from the national collections; 18 pieces of aboriginal pottery were forwarded to Lehigh County Historical Society, Allentown, Pa., also as a gift. It is patent that this division has extended its educational work by these exchanges and gifts.

By physical anthropology nine casts of Indian skulls and three deformed skulls were sent to the Adelaide Museum, Australia, in exchange for material received. A set of photographs illustrating conditions of disease and deformity in ancient man was lent to Doctors Young and Cooper, of Scotts Bluff, Nebr., for exhibition at a meeting of the medical association.

NUMBER OF SPECIMENS UNDER DEPARTMENT

Of the 124 accessions with 4,223 specimens received during the past fiscal year in the departments of anthropology 3 accessions including 218 specimens were loans, leaving a permanent residue of 4,005 specimens, as compared with 3,216 specimens for the previous year. The inflow was distributed as follows: Ethnology, 42 accessions with 1,489 specimens; American archeology, 31 accessions and 382 specimens; Old World archeology, 22 accessions of 2,183 specimens; physical anthropology, 31 accessions with 145 specimens; ceramics, 6 accessions and 10 specimens; and art textiles, 6 accessions with 14 specimens.

On June 30, 1926, the total number of specimens in the department was 655,715, as follows:

Ethnology	158,535
American archeology	424,690
Old World archeology	33,357
Physical anthropology	29,905
Musical instruments	2,063
Ceramics	5,750
Art textiles	1,415
Total	655,715

REPORT ON THE DEPARTMENT OF BIOLOGY

By LEONHARD STEJNEGER, *Head Curator*

Activities of the department of biology have continued as in previous years in an earnest endeavor to keep work going in the face of handicaps imposed by lack of funds for assistance and field investigations. Need for further manual and clerical assistance for many of the curators is imperative now, since under present conditions in some divisions members of the scientific staff spend the greater part of their time in doing work which should be performed by clerks or laborers.

As a brief summary of the activities of the staff in field work, it may be mentioned that in the zoological divisions the curators of mammals, birds, insects, and mollusks have each spent a brief time in the field wholly or partly at personal expense. The curator of marine invertebrates under the Walter Rathbone Bacon scholarship visited the eastern coast of South America. The botanists were able to undertake an unusual amount of field work and foreign investigation by arrangement with outside institutions or by supplying their own traveling expenses. Valuable collections have come to the institution as the outcome of all this work, and it is regretted that money available on the part of the Museum did not permit assistance in more extended work.

ACCESSIONS FOR THE YEAR

With two notable exceptions, the various divisions this year report a smaller number of accessions and specimens than in the year previous, though in many cases the great scientific importance of the collections received make up for the numerical decrease. The outstanding exceptions are the divisions of insects and of marine invertebrates.

Dr. William Schaus, honorary assistant curator of insects, is mainly responsible for a great addition in the collection of insects, inasmuch as by his initiative he raised the sum of $50,000, including a substantial personal contribution, for the purchase of the Dognin collection of lepidoptera. When arrangements for the purchase were completed, Doctor Schaus went to France with J. T. Barnes and packed the specimens for transportation. By the addi-

tion of this collection, which contains about 82,000 specimens, including 3,000 types, Doctor Schaus has earned the credit for having made the national collection of American moths and butterflies the best in the world. Another exceedingly important addition is the Hamfelt collection of European minute moths, consisting of about 10,000 specimens deposited through the Department of Agriculture.

The other division which can boast of an important increase in its collections is that of marine invertebrates through the material brought back by Dr. Waldo L. Schmitt, curator of the division, as the fruit of six months collecting in South America under the Walter Rathbone Bacon Traveling Scholarship. It should be added that incidental to the collection of crustacea, the study of which was the main purpose of his field work, he secured valuable collections in other branches of zoology.

Special mention should be made of the collections transferred by the Bureau of Fisheries, which include types of many new species collected during the *Albatross* cruise of 1911 to Lower California and the Gulf of California. This expedition was a joint undertaking by the bureau and the New York Zoological Society, the stipulation being that a first set of specimens, including types, should come to the National Museum when the material had been identified. The collections received during the past fiscal year include birds, fishes, and crustaceans.

With the above exceptions, the principal zoological accessions have come as during the previous year from China and southeastern Asia, supplementing the earlier collections which the Museum owes to the labors and generosity of Dr. W. L. Abbott. His continued interest in the institution is manifested by the presentation of a valuable collection of birds from Siam and the islands west of Sumatra. From Siam Dr. Hugh M. Smith, fisheries adviser to the Government of Siam, has sent large and important collections of mammals, birds, reptiles, amphibians, crustaceans, and mollusks. Dr. H. C. Kellers, United States Navy, who was detailed by the Navy Department to accompany the United States Navy Eclipse Expedition, 1925, to Sumatra, brought back valuable collections of mammals, alcoholic birds, reptiles, amphibians, fishes, marine invertebrates, and other material. Rev. D. C. Graham, from Suifu in western China, continued to send important material in mammals, birds, reptiles, amphibians, fishes, mollusks, crustaceans, and insects, particularly from the region of the Wa and Omei Mountains in western Szechwan.

Mammals.—Two shipments from Dr. Hugh M. Smith, Bangkok, Siam, consisted of 71 specimens, by far the most important addition received during the past year, being of great value in connection

with the Malayan collections made by Dr. W. L. Abbott. Benjamin Burbridge, Jacksonville, Fla., presented two Kivu gorilla skins and one skull from the Belgian Congo, representing a race of which the Museum previously only possessed one specimen obtained from the same gentlemen. The Navy Department transmitted 23 mammals, mostly bats, collected in Sumatra by Dr. H. C. Kellers, United States Navy, during the eclipse expedition of 1925. Dr. C. D. Walcott, secretary of the Smithsonian Institution, collected the skins and skulls of two mountain sheep and the skin and antlers of a mule deer in Alberta, Canada. Rev. D. C. Graham sent 41 mammals from the region of Suifu, China. Five skins, with skulls, of small Californian mammals, among them three forms new to the Museum, were donated by Miss Annie M. Alexander, Suisun, Calif., through the Museum of Vertebrate Zoology. The National Geographic Society, Washington, D. C., presented embryos of a walrus and two cetaceans from the Arctic regions collected by Dr. Walter Koelz during the Greenland expedition of 1925. Eleven small mammals, all representing forms new to the Museum, were obtained by purchase.

Birds.—A series of 493 skins, 201 from Siam and 292 from Sipora and Siberut Islands, in the Mentawei group, western Sumatra, came as the gift of Dr. W. L. Abbott. The Siamese birds were collected under the direction of C. B. Kloss by J. H. Chambai and K. G. Gairdner from April to July, 1924. Those from the Mentawi Islands were obtained by C. Boden Kloss from September to November, 1924, on an expedition sent out from the Raffles Museum at Singapore. The island of Sipora had been previously visited by an Italian traveler and was not entirely unknown ornithologically, but nothing was previously known of the birds of Siberut. The collection has been tentatively reported upon by F. N. Chasen and C. Boden Kloss, who have described 11 new forms, which are represented in the series presented to the National Museum by Doctor Abbott. The entire collection has been sent to Washington for further study. Among species from Siam which are new to the Museum may be mentioned a pygmy falcon (*Nesierax insignis*). Rev. David C. Graham, of Suifu, Szechwan, China, forwarded 403 skins and 72 skeletons, chiefly from Mount Omei and Washan. The material has not been fully determined, but includes a distinct new "timaliine" bird of the genus *Liocichla*, hitherto known only from the island of Formosa. Most of the skeletons (about 42 species) proved to be new to the anatomical branch of the collection. B. H. Swales, honorary assistant curator of birds, presented 45 skins and 8 anatomical specimens (7 skeletons and 1 alcoholic), all highly valuable, as they represent species or genera new to the Museum. Among them may be mentioned especially the rare *Mesoenas variegatus*, a

peculiar bird of a family not hitherto contained in the alcoholic series; a skin of *Uratelornis chimaera*, a roller, and the only genus of the family previously lacking here; a skin of a flamingo (*Phoeniconais minor*), the only genus of its family lacking in the collection; *Leucopsar rothschildi*, a genus of starlings confined to the mountains of the island of Bali; *Rhynchotus maculicollis*, a tinamou, and *Cinclus schulzi*, a dipper, both rare species from Argentina; *Idiopsar brachyurus*, a rare finch, long known from the type only, which reached the Museum in 1864; three skeletons of a seed snipe (*Thinocorus orbignyianus*), new to the skeleton series; and skeletons of northern hawks and owls needed for various comparisons. Dr. Casey A. Wood, collaborator in the division of birds, presented 20 skins from the Fiji Islands and 2 skins and 32 alcoholic specimens from Ceylon, the anatomical material being of particular interest, through embracing species new to the alcoholic series. A skin of *Urocynchramus pylzowi*, a peculiar bunting-like bird supposed by some writers to constitute a family in itself, was received in exchange from the zoological museum of the Russian Academy of Sciences. An exchange from the zoological museum at Berlin was productive of four skins of four genera and species needed to fill that many gaps in the National Museum. One of the specimens, a drongo (*Dicranostreptus megarhynchus*), completed our representation of the genera of its family. By transfer from the Bureau of Fisheries there were received 245 skins collected during a voyage of the *Albatross* in March and April, 1911, in various parts of Lower California. The specimens were chiefly duplicates from the main collection now in the American Museum of Natural History, but included the type of a new form of towhee, (*Pipilo fuscus jamesi*). A pygmy owl (*Glaucidium hoskinsi*) also proved new to the National Museum. From the Biological Survey were received 57 skeletons of North American species and a skin of a rare plover (*Pluvianellus sociabilis*) from Argentina, the latter completing the Museum's representation of genera of American plovers. Among the skeletons was one of a rare and recently described species of seaside sparrow (*Thryospiza mirabilis*), probably unique in skeleton form. The Navy Department transferred 53 alcoholic birds (about 40 species), collected by Dr. H. C. Kellers on the naval eclipse expedition to Sumatra, most of them being new to the anatomical branch of the collection. Sixty skeletons from the Santa Marta region of Colombia received in exchange from the Carnegie Museum, Pittsburgh, Pa., consisted chiefly of species new to this section of the collection. By transfer from the National Zoological Park there came 19 skins, 19 alcoholics and skeletons, and 4 eggs. These included skins of the Marquesas ground pigeon (*Gallicolumba rubescens*), a good alco-

holic specimen of an apteryx (*Apteryx australis mantelli*), and two eggs of the California condor (*Gymnogyps californianus*), the eggs of which are rare and highly prized by collectors. Prince N. Takatsukasa, Tokyo, Japan, presented three skins of a rare jay (*Lalocitta lidthi*) from the Riu Kiu Islands. Dr. Hugh M. Smith, Bangkok, Siam, sent 22 skins from Siam, collected for the Museum, mostly large species; a much larger series of small forms were being held for a later shipment. Charles L. Fagan presented four skins of the rare Hornby's petrel (*Oceanodroma hornbyi*) and one skin of another petrel (*Oceanites gracilis*), both from the west coast of South America.

Norman Wood forwarded a specimen of the rare Kirtland's warbler in alcohol, probably the only specimen available in that form; A. D. Henderson, a skeleton of the hawk owl; J. Stokley Ligon, the skeleton of a ferruginous rough-legged hawk; and S. G. Jewett, skeletons of three western grebes. Dr. C. W. Richmond collected a series of small birds as skeletons during May near Cold Spring, New York.

Reptiles and batrachians.—The most important accession of the year consisted of 355 reptiles and amphibians from Siam, collected and donated by Dr. Hugh M. Smith. Of equal interest were the 157 specimens received from Rev. D. C. Graham, as related above. Both of these collections contain several new species and a large number hitherto not represented in the Museum. Dr. H. C. Kellers' contribution (through the U. S. Navy) of 344 specimens also adds several interesting species new to the collection. Dr. Maynard M. Metcalf donated a very desirable series of 128 South American frogs, of which many are new to the Museum. By exchange with the zoological museum of the Academy of Sciences in Leningrad, 17 Asiatic species, mostly topotypes of species described from the Russian expeditions and new to the Museum, were obtained in exchange.

Fishes.—The scientific value of the collections of fishes received was considerably greater than that of the preceding year. The more important additions were 58 species, among them 26 types, transferred by the Bureau of Fisheries, mostly the result of the Albatross cruise of 1911 in the Gulf of California; 498 specimens from the vicinity of Suifu, China, collected by Rev. D. C. Graham. The late Eric K. Jordan donated seven specimens, the types of six new species, and two new genera described by him. Dr. Waldo L. Schmitt sent in 336 fishes from Brazil and Uruguay, a result of his trip as a Walter Rathbone Bacon scholar. Dr. H. C. Kellers, United States Navy, collected 843 fishes in Sumatra, and J. Morgan Clements, 153 specimens in Tahiti; Dr. Maynard M. Metcalf donated 50 fishes from

South America. Miss Edith R. Force, science department, high school, of Okmulgee, Okla., donated 167 specimens from that vicinity.

Insects.—Reference has already been made to the acquisition of the magnificent Dognin collection of American lepidoptera through the initiative and personal interest of Dr. William Schaus, honorary assistant curator. This collection contains about 82,000 specimens, including types of more than 3,000 American species of moths and butterflies. With this addition it is believed that our collection of lepidoptera from the American fauna is now the best in the world. During the year the Department of Agriculture purchased the collection of European micro-lepidoptera belonging to the Swedish specialist, B. Hamfelt, and deposited it in the Museum. This collection contains some 10,000 specimens of minute moths, a very important addition in a group of economic importance. R. T. Shannon on his return from an extensive tour of European museums deposited in the National Museum an important series of 862 specimens of Diptera, many of which are of unusual value, as they have been compared with European types, while others are types of Mr. Shannon's description.

Marine invertebrates.—Dr. Waldo L. Schmitt, traveling under the Walter Rathbone Bacon scholarship, spent six months in South America studying the carcinological fauna and returned with a miscellaneous collection of over 5,000 specimens, mostly crustacea, but including hydroids, coelenterates, annelid worms, and marine forms, comprising the outstanding accession in this division during the present year. Among the other noteworthy accessions may be listed material received from the United States Navy Eclipse Expedition to Sumatra, some 738 specimens collected by Lieut. H. C. Kellers, Marine Corps, United States Navy; 270 invertebrates received from Capt. R. A. Bartlett through the National Geographic Society; miscellaneous natural history specimens collected by Dr. Walter Koelz while a member of the Arctic expedition under the joint auspices of Donald B. Macmillan, the National Geographic Society, and the Navy Department in 1925; 84 specimens of crustacea from northern Japan and China, containing a number of species new to our collections, from Dr. Madoka Sasaki, professor of marine zoology, the Hokkaido Imperial University, Sapporo, Japan; 57 specimens of polychaetous annelids from various localities, including five type specimens, from Dr. A. L. Treadwell, Vassar College, Poughkeepsie, N. Y.; and 81 specimens of amphipods, representing all but one of the known fresh-water species of Germany, from Dr. Eric Rose, Tucheband bei Küstrin, Brandenburg, Germany.

The division received from the Bureau of Fisheries 84 specimens (14 species) of amphipods including eight types, collected on the 1911 cruise of the *Albatross* (reported on by Mr. C. R. Shoemaker);

and 536 crabs, including the types of two new species from the same source (reported on by Dr. Mary J. Rathbun). The above are in addition to 181 specimens of miscellaneous invertebrates received from the Bureau of Fisheries, by transfer, from various localities. From Rev. David C. Graham came 196 specimens from Szechuen, China; from Dr. Hugh M. Smith a collection of 200 specimens of crustacea from Siam; from J. Morgan Clements a collection of 135 specimens of marine invertebrates from the Society Islands; from Prof. Gordon E. Gates, Judson College, Rangoon, Burma, 82 specimens from Rangoon, Burma; from Dr. Stillman Wright, University of Wisconsin, Madison, Wis., 20 specimens of fresh-water copepods from North and South America, including the types of 7 new species and 1 new subspecies.

Mollusks.—For this division the following accessions are of particular value: Four hundred and fifty-two specimens of mollusks collected by Dr. Hugh M. Smith in Siam; 75 specimens, including the types of 29 new species, of small marine mollusks from Santa Elena Bay, Ecuador, donated by A. A. Olsson; about 700 specimens of mollusks collected by Dr. Waldo Schmitt in South America; 4 species, 51 specimens, of Holospiras from Arizona and New Mexico, previously not represented in our collection, donated by Dr. H. A. Pilsbry, of the Academy of Natural Sciences, Philadelphia, Pa.; valued sendings presented by C. R. Orcutt, secured during his explorations in New Mexico and Mexico, including types of new species; 5 sendings of mollusks, approximately 500 specimens, from Rev. David C. Graham in China; some 1,300 specimens of South American land, fresh-water, and marine mollusks collected and donated to the Museum by Theodore A. Link; 183 specimens of land, fresh-water, and marine shells from American localities, offered in exchange by Mrs. I. S. Oldroyd; five sendings, chiefly from Uruguay, by Dr. Florentino Felippone, which have been donated to the Museum in return for determinations; the type of *Stagnicola allemani* Baker from Washington, donated to the Museum by C. D. Alleman; about 1,000 shells from various localities, from the estate of Mrs. Margaret Douglass Buck, through C. Douglass Buck, of Wilmington, Del.; about 345 specimens of land, fresh-water, and marine shells from various localities, donated by Dr. Carl C. Engberg; 572 specimens of marine mollusks from the Society Islands, from J. Morgan Clements; paratypes of five species of *Physas* from various localities, donated by William J. Clench; 154 specimens from the Tres Marias, Socorro, and Clarion Islands, Mexico, resulting from the combined expedition of the California Academy of Sciences and the United States Navy Department; 250 specimens of land, fresh-water, and

marine shells collected by Doctor Kellers, United States Navy during the eclipse expedition to Sumatra.

The coral collection received eight accessions during the year, consisting of 59 specimens.

The helminthological collection also received eight accessions, consisting of about 58 specimens. In addition, the Bureau of Animal Industry has catalogued 337 specimens, so that the net increase of the Helminth collection this year is 395.

Echinoderms.—The most noteworthy accessions were two collections made by Dr. Waldo L. Schmitt, curator of marine invertebrates, one at the Dry Tortugas, Fla., in cooperation with the Carnegie Institution of Washington, the other on the eastern coast of South America with the assistance of the Walter Rathbone Bacon Fund; and the Arctic collections of Dr. Walter Koelz, assembled during the MacMillan expedition of 1925 and transmitted to the Museum by the National Geographic Society.

Plants.—The more important accessions are the following: 16,000 specimens collected for the Museum by Paul C. Standley, chiefly in Costa Rica, with a smaller number from Panama; 9,000 specimens from Haiti by Emery C. Leonard, collected for the Museum; 5,347 specimens transferred by the Bureau of Plant Industry, United States Department of Agriculture, including 3,763 grasses, a large proportion of them obtained in Brazil by Mrs. Agnes Chase. A collection of *Ribes* and *Grossularia* material gathered in California by Dr. Frederick V. Coville consists of 325 specimens. The Bureau of Biological Survey transferred 251 specimens, chiefly from Alaska; 1,987 specimens, chiefly from South America and Europe were received in exchange from the Riksmuseets Botaniska Avdelning, Vetenskapsakademien, Stockholm; 1,615 specimens chiefly from Yucatan, containing numerous species not represented previously in the National Herbarium, were received as an exchange from the Field Museum of Natural History, Chicago (these originated mainly in the important collection made by Dr. G. F. Gaumer, forwarded here by the Field Museum for determination); 1,563 specimens of Chinese plants were received in exchange from the Royal Botanic Gardens, Edinburgh; 1,218 specimens, chiefly from Australia and tropical America, came in exchange from the Universitetets Botaniske Museum, Copenhagen; 933 specimens, mostly from the East Indies and the Pacific Islands, received in exchange from the University of California; 941 specimens, chiefly Australian, received in exchange from the British Museum (Natural History), London; 795 specimens of South American plants, received in exchange from the Botanical Garden and Museum, Berlin; 760 specimens, chiefly West Indian, forwarded in exchange by the New York Botanical

Garden; 566 specimens of Venezuelan plants, received from H. Pittier, Caracas, partly as a gift and partly purchased; 674 specimens from Peru, presented by Prof. F. L. Herrera, Cuzco, Peru; 664 specimens from tropical Mexico, presented by C. A. Purpus, Zacuapam, Vera Cruz; 548 specimens of woody plants, received in exchange from the Arnold Arboretum, Jamaica Plain, Mass.; 518 specimens of Chilean plants, presented by Brother Claude Joseph, Nunca, Chile; 413 specimens of cryptogams and Chinese plants, received in exchange from the Naturhistorisches Museum, Vienna; 369 specimens, chiefly from Bolivia, presented by the Mulford Biological Exploration of the Amazon Basin; 201 specimens of Costa Rican orchids presented by Prof. Anastasio Alfaro, San José, Costa Rica; 350 specimens from Venezuela, purchased from C. H. H. Tate, New York City; 252 specimens from Guatemala and British Honduras, received from the Yale School of Forestry, New Haven, Conn., mostly collected by Prof. Samuel J. Record in connection with his investigations of Central American trees; 358 specimens from western Mexico were presented by J. G. Ortega, Mazatlan, Mexico.

INSTALLATION AND PRESERVATION OF COLLECTIONS

A notable addition to the exhibition series was the completion and installation of the dikdik group in the African mammal hall. Dikdiks are miniature antelopes peculiar to eastern Africa, not much larger than a lap dog, characterized by a curious prolongation of the snout and a rudimentary tail. The males have small spike-like horns. The mounted group, which represents four individuals amid a dense growth of grass, was designed and mounted by W. L. Brown, taxidermist of the Museum staff.

The case of kangaroos was entirely rearranged to make room for a fine specimen of gray kangaroo. The Burchell's zebra in the African hall, which has been on exhibition for 40 years, was found to have developed cracks in the skin and was in such condition that it could not be repaired. It was, therefore, dismounted and placed for the study series, as the species is verging on extinction and few specimens are preserved in museums.[2] The dismounting was skillfully done by George Marshall, of the taxidermist staff. The large model of the giant octopus, which had been stored for many years, was completely renovated and hung from the ceiling of the fish hall by C. E. Mirguet.

The most important work of the taxidermists was the dismantling of the old Rocky Mountain sheep group and the building of a new

[2] An illustrated description of this specimen by Dr. M. W. Lyon, jr., is found in Proc U. S. Nat. Mus., vol. 32, 1907, pp. 1–3, pls. 1–3.

one with four specimens, three of which were secured by Dr. Charles D. Walcott, Secretary of the Smithsonian Institution, during his geological explorations in western Canada. The group was sent to Philadelphia as a part of the Smithsonian exhibit at the Sesquicentennial Exposition, and at the end of the exposition will be returned and installed in the American mammal hall with entirely new accessories.

Victor J. Evans presented to the Museum a recently dead Japanese giant salamander, offering opportunity for a plaster cast. This cast, excellently colored from nature by Miss D. Cochran, was placed on exhibition. A cast was also made of a Mexican heloderma, a larger and longer-tailed species than the familiar Arizona gila monster, from a specimen which died in the National Zoological Park.

A number of additions, especially birds and plants, has come to the District of Columbia exhibit. Dr. Paul Bartsch has been greatly aided in arranging this collection by Mrs. Mary Gibson, of the nature study section of the public schools.

Curatorial work in the various divisions has progressed as usual. In the division of mammals 14 quarter-unit and 6 half-unit cases were received during the fiscal year for the storing of skins, skulls, and skeletal material. Eight quarter-unit cases were added to the storage facilities for large skulls and skeletons and considerable progress was made in arrangement of this part of the collection. To conserve space, sets of leg bones of the larger ungulates are being removed from the regular storage cases, labeled, packed in wooden boxes, and stored in the mammal range. By so doing the material in these cases is released from overcrowding. Though the entire collection is in a crowded condition at this time, the large skulls and skeletons are in much better shape than ever before. Six half-unit cases were added for the skin collection, which is still in an overcrowded condition, except for some of the smaller groups. Considerable time has been devoted during the year to the further arrangement and storage of the cetacean collection. The small skulls and small skeletons have all been placed in cases, but owing to recent additions of cetacean material the entire collection, which now occupies 57 quarter-unit cases, has had to be rearranged. A rather large amount of alcoholic porpoise material has been taken from barrels in which it was formerly stored, labeled, and put in proper containers. Quite a number of these alcoholic specimens were immediately used for study purposes. Twenty-nine large skins were tanned on outside contract during the year, while a few large and quite a number of small skins, including those used for exhibition purposes, were tanned by the taxidermists.

During the year the taxidermists have prepared as study specimens about 21 flat skins and 40 made-up skins. Work on cleaning

large and medium skulls and skeletons by the museum force has resulted as follows: Skulls, 345; skeletons, 31. Contract work on small and medium-sized skulls and skeletons has resulted in the cleaning of 566 skulls and 110 skeletons. This work is in a satisfactory condition, only a very few uncleaned skulls and skeletons now being on hand in the office. It is gratifying to report that the various collections in the division of mammals at this time are in better shape than they have ever been heretofore.

In the division of birds nine half-unit storage cases and five quarter-unit cases were received during the year. The skins of the heron family were rearranged, as were the ducks, screamers, part of the gallinaceous birds, cormorants, woodpeckers, and thrushes of the genus Turdus, so as to make these groups better available for reference. During the year the taxidermists remade a considerable number of skins, especially of Chinese birds. So far as arranged and installed, the eggs and nests are in good order and accessible, but due to lack of time the accumulations of the year have been filed temporarily with other lots received in recent years, awaiting an opportunity to be installed in the systematic series.

In alcoholics and skeletons in the division of birds Dr. A. Wetmore, the custodian of this series, reports that 669 cleaned skeletons and parts of skeletons were received from the cleaners, placed in boxes, numbered, and distributed in the reference collections of bird skeletons, resulting in an addition of 120 forms of birds not previously represented. During the year the osteologists completed preparation of the last of a large accumulation of dried skeletal material, some of it dating back many years, so that on January 1, 1926, the collection was in shape practically down to date. Further specimens in rough-dried form are received steadily. The collection of alcoholic birds was entirely overhauled and rearranged. Jars were cleaned and where necessary were refilled with alcohol. The collection is now in wholly accessible condition for the first time in many years.

Arthur L. O'Leary was employed as a temporary preparator from August 3 to December 31, 1925. In this period he numbered, labeled, and card indexed 725 skeletons and arranged the alcoholic series systematically by families and genera.

In the division of reptiles Miss D. Cochran has identified over 2,900 amphibians and reptiles, which have all been assigned to permanent places in the storage room. The amount of old, unidentified material is steadily shrinking, and it is hoped that in a few years we will be as completely up to date as can be expected. Considerable skeletal material has been cleaned, leaving mainly large alligators and turtles still to be prepared. The laborer has been completely

over the collection, examining bottles for evaporation and washing off the dust, regreasing stoppers, and replacing corks. The present status of the collection is very good.

In the division of fishes the chief curatorial work has consisted in keeping the study series in good order and in handling the enormous quantity of material in the Philippine collections upon which Henry W. Fowler, of the Philadelphia Academy of Natural Sciences, is at present engaged. The condition of the collection is good.

In the division of insects very important progress has been made in the work of installing the Casey collection of Coleoptera. When received, this collection was preserved in Schmitt boxes and, though labeled properly and sufficiently for private use, was in such condition that confusion might result if the collection was made available for general study. Through the Laura Welsh Casey fund, generously established by Mrs. Casey, it has been possible to undertake the necessary work of relabeling without delay. L. L. Buchanan, a competent and careful specialist in beetles, is engaged now in labeling and installing the collection in standard trays in the usual glass-covered drawers. Each specimen is being marked so that there are indicated all types and cotypes, all determinations made by Colonel Casey, and the order in which the specimens were placed in the original boxes. As the work is finished the families or genera completed are made available for study. Specialists who have examined this part of the work have expressed great satisfaction at the manner in which the collection has been handled by the Museum.

The Dognin collection of Lepidoptera, to which allusion has been made, arrived from France in the early fall of 1925, and Doctor Schaus has been busily engaged in incorporating it in the general collection of moths and butterflies. Fortunately in this case it was possible to place most of the specimens in available space so that rearrangement of the entire collection is not necessary.

As in previous years, the division of insects has had the assistance of some 15 specialists of the Department of Agriculture, who have made material improvement in the arrangement of the collections upon which they have been engaged. Specifically it may be mentioned that A. Busck has practically completed incorporation of the Micro-lepidoptera received in the Fernald collection. A. N. Caudell has completed a synoptic arrangement of the North American Orthopetera. Dr. H. E. Ewing has supervised the transfer of many of the large spiders into standard containers, and the entire collection has been expanded. H. S. Barber has assembled and made available a great part of the Coleoptera belonging to the family Coccinellidae. C. T. Greene has rearranged the series of flies belonging to the families Phoridae, Empiidae, and Platypezidae. He

also completed an arrangement of the larval collection of Diptera so that now all of this material is grouped under families. Dr. W. M. Mann has rearranged the following four tribes of ants, Solenopsidini, Pheidolini, Tapinomini, and Dolichoderini, in accordance with the plan of classification proposed by Dr. W. M. Wheeler. Mr. Gahan has completed the arrangement of the Chalcidoid parasites belonging to the subfamily Aphelininae, and has arranged parasitic forms belonging to the family Mymaridae. The oriental and other exotic species of the genus Brachymeria have been consolidated and assembled, and the Pteromalid parasites of the genus Dibrachys and allies have been completely rearranged. C. F. W. Muesebeck, of the gypsy moth laboratory, rearranged the Ichneumonoid subfamily Braconinae, and R. A. Cushman has rearranged the entire Ichneumon collection belonging to the tribe Cryptini. The Vespoid subfamilies Polygiinae and Polistinae have been expanded and rearranged and carefully studied with the help of Doctor Bequaert. The present status of the insect division is reported as better than ever before.

The curator of marine invertebrates reports that the study series in the alcoholic stacks has grown to such an extent that it has become a serious problem to properly care for all the material for which he is responsible. Incoming material has been sorted as it has arrived, often to the serious curtailment of scientific work on the part of the staff. The duties of sorting have been particularly heavy this year, due to the number of expeditions that have returned with comprehensive collections from various parts of the world.

In the division of mollusks the study series has been constantly added to and subjected to such revision as the time of the staff has permitted. Part of the corals which were stored without cases have been placed during the year in additional cases, which now completely fill the southwest corridor of the third floor. The helminthological collection, which is largely an alcoholic one, is in splendid condition.

The study collections of the division of echinoderms have been subjected to the regular inspection by the curator and found to be in excellent condition. He has personally renewed the alcohol in some hundreds of bottles, and transferred many of the dry specimens to new boxes with covers so as to avoid danger of deterioration through the action of dust. Practically all of the dried specimens, except the very large ones, are now in covered boxes.

Curatorial work in the National Herbarium has progressed as usual. In the main herbarium, 32,056 specimens have been entered in the record books, preparatory to their placing in the herbarium. Because of the crowded condition of the present herbarium cases, and the lack of space for installing others, it has not seemed prac-

ticable to make a general distribution of the accumulation of mounted specimens. There remains on hand, therefore, a good-sized amount of material from the United States and the Old World which has not been incorporated in the herbarium. Doctor Maxon has identified, distributed, and rearranged a large quantity of ferns. Mr. Standley has determined and distributed a large amount of material from Mexico and Central America, while Mr. Killip and Mr. Leonard have performed the same service in the case of South American and West Indian plants.

Mr. Killip has continued the segregation of type specimens, of which 12,871 are now distinctly labeled and placed apart in the special collection called the type herbarium.

The condition of the cryptogamic herbarium remains the same as at the end of the last fiscal year. Because of lack of curatorial assistance it has been impossible to incorporate the current collections or the large accumulations of previous years.

Good progress has been made in the mounting of plants, so that during the year 18,122 specimens have been glued; 15,691 glued specimens have been strapped, 8,500 of them under contract; and 10,634 specimens have been mounted wholly by adhesive plaster, 7,254 of this number under contract. Thus, the total number of specimens mounted during the year is 26,325. Practically all the collection of Philippine plants, estimated at 12,000 specimens, remaining from previous years have been mounted. Otherwise, preference has been given to collections from tropical America needed for immediate study. There is yet on hand a large amount of unmounted material, chiefly from the United States and the Old World, representing approximately a normal year's work in mounting.

The work of the taxidermists and preparators in so far as it relates to the exhibition series has already been mentioned. The usual work of the shops in mounting, renovating, degreasing, and repairing specimens, in addition to the regular work of cleaning skeletons, skulls, and other skeletal parts, has progressed satisfactorily; 521 defective field bird skins were remade by George Marshall and C. R. Aschemeier, and 81 birds dismounted; 504 entire skeletons, 51 partial skeletons, 147 separate skulls, and 345 other skeletal parts were prepared by Mr. Scollick and Mr. East for the study series; 94 entire skeletons and skulls of reptiles and amphibians, mostly turtles, snakes, and frogs, were cleaned. Many of the latter (about 30) were prepared by C. E. Mirguet, whose time was mostly devoted to the restoration of the octopus and squid models, and the cleaning of large mammal skulls, of which 111 were prepared. He also cleaned 52 mammal skeletons and made a number of plaster casts of mammal bones, reptiles, and amphibians.

INVESTIGATION AND RESEARCH

Research for the benefit of the Museum.—As explained in previous reports, the number of the scientific staff is insufficient to cover all sections of zoology and botany, so that we must seek the aid of experts connected with other scientific institutions for material in certain groups that is submitted to the Museum for determination.

Research work by Gerrit S. Miller, jr., curator of mammals, has been chiefly directed to the completion of a monograph of the American bats of the genus *Myotis* in collaboration with Dr. Glover M. Allen, of the Museum of Comparative Zoology, Cambridge, Mass.; the manuscript is now ready for publication.

Dr. Robert Ridgway, curator of birds, reports that work on Bulletin 50, The Birds of North and Middle America, has been of the same character as that of the year before and has covered mainly the compiling of references for the synonymy, a very considerable task on account of the enormous increase of ornithological literature. Some work has been done on diagnoses and description of the higher groups. Dr. C. W. Richmond, associate curator of birds, in time available from routine, and B. H. Swales, honorary assistant curator, were in part engaged in gathering data for a catalogue of the types of bird species in the National Museum. J. H. Riley, aid, prepared a manuscript on a "Collection of birds from the Provinces of Yunnan and Szechwan, China, made for the National Geographic Society by Dr. Joseph F. Rock," besides three short papers describing new forms in the Chinese collections. Most of his work during the year related to the ornithology of China. Dr. A. Wetmore, as custodian of the alcoholic and skeleton collections of birds, embodied the results of studies made in connection with these collections in papers listed in the accompanying bibliography.

The curator of reptiles and batrachians, Leonhard Stejneger, completed a synoptic check list of the amphibians and reptiles of continental China, with assistance of Miss D. Cochran in the preparation of the illustrations. He also continued his studies of Chinese material received during the year with a view to a separate report on these collections. His work on North and Middle American turtles was likewise continued during spare moments, and a brief paper giving diagnoses of certain new species was published. Miss Cochran, in addition to continuing her studies of the herpetology of the island of Santo Domingo, has devoted some time to a report on the very interesting collections made by Dr. Hugh M. Smith in Siam.

In the division of fishes research on the part of the assistant curator, B. A. Bean, and his aid, E. D. Reid, has been confined to a study of collections from China, South America, the Philippine

Islands, and several lots submitted by the science department of the high school in Okmulgee, Okla.

The associate curator of insects, Dr. J. M. Aldrich, has worked on the earlier American types of Muscoid Diptera now preserved in the Natural History Museum at Vienna, Austria. Small lots of these types have been received from time to time, five in all up to the present, and three reports upon them have been published by him in the Annals of the Entomological Society of America. Other investigations are indicated by the titles of papers listed in the bibliography. The honorary custodians of the various sections and their associates have continued researches in many lines. W. S. Fisher has devoted much time to a revision of the North American Buprestid beetles of the genus *Agrilus*. He has also had an opportunity to conduct taxonomic investigations on the Buprestid fauna of the Philippine Islands through material submitted by Prof. C. F. Baker. Dr. A. G. Böving has spent considerable time studying the immature stages of chrysomelid beetles of the subfamily Halticinae, and has completed a manuscript dealing with the taxonomy of the larvae of this group. He has also continued his investigations into the classification of coleopterous larvae, with special attention to those of the families Derodontidae, Cryptophagidae, Byturidae, and Mycetophagidae. A. Busck has continued his studies on the taxonomy of the North American Micro-lepidoptera of the family Tortricidae and has practically completed a revision of this group. C. Heinrich has continued his investigation of genitalia of Micro-lepidoptera, and in connection with Dr. H. C. Dyar has prepared a review of the American moths belonging to the genus *Diatraea* and its allies. Doctor Schaus has done considerable research in connection with the identification of material from the Philippines submitted by C. F. Baker, material from China collected by Rev. D. C. Graham, and material from South America received from a large number of collectors. A. N. Caudell completed a taxonomic report on the Orthoptera of Java and continued his investigations into the taxonomy of cockroaches. Dr. H. E. Ewing devoted considerable time to the study of relationships of various genera of Mallophaga parasitic on birds. He also completed a treatise on the parasite mites injurious to man and domestic animals that includes new keys for the identification of genera and higher groups. Doctor Ewing also spent considerable time in research into the literature of mites and has partially completed a catalogue of North American species. C. T. Greene conducted investigations on the immature stages of flies of the family Leptidae and completed a manuscript based on the materials in the national collection. He also devoted considerable time to taxonomic investigations of Tachinid flies in which the fourth

vein of the wing is evanescent and engaged in a study of the immature stages of flies of the family Agromyzidae. Raymond C. Shannon completed revisionary studies of flies of the families Calliphoridae and Syrphidae. In connection with this work he prepared descriptions of many new forms in the national collection. W. L. McAtee and J. R. Malloch conducted investigations into the classification of Negro bugs, basing their studies almost entirely on materials in the national collection. During the last half of June Dr. H. H. Knight was employed by the Bureau of Entomology in taxonomic studies on bugs of the family Mididae. Members assigned to the study of Hymenoptera have had comparatively little time to do research other than that necessitated in the connection with the identification of material submitted. Practically all of Mr. Gahan's time was devoted to identification work; all of Mr. Rohwer's time was occupied in identification or administrative work; R. A. Cushman continued investigations into the taxonomy of Ichneumonid parasites of the tribe Ichneumonini and carried on investigational studies throughout the entire family Ichneumonidae, practically completing a check list of the North American Ichneumon flies.

Dr. Mary J. Rathbun, associate in zoology, has worked for the greater part of the year on the third volume of her series of monographs on American crabs. The present volume will embrace the Cancroidea, comprising the families of crabs known as the Xanthidae and Portunidae, and their relatives. She has prepared also a report on the Decapoda of the Canadian Atlantic fauna for the Biological Board of Canada, and has identified great numbers of modern and fossil crabs for the Museum and the Geological Survey. Her treatise on the Fossil Decapods of the Pacific Slope of North America is about to go to press. Doctor Rathbun has been asked to serve as section editor for Crustacea by the abstracting journal "Biological Abstracts" about to be established under the auspices of the union of American biological societies.

The curator of marine invertebrates, Dr. Waldo L. Schmitt, devoted a considerable part of the year to field work in South America under the Walter Rathbone Bacon scholarship of the Smithsonian Institution. The field studies prosecuted under these auspices have supplemented his researches on the Museum collections, supplying information regarding habits, distribution, and other matters obtainable in no other way. Many accumulated routine identifications have been made during the time spent in the laboratory. The report on the collection of Siamese Macrura made by Dr. Hugh M. Smith is virtually complete. Clarence R. Shoemaker, assistant curator, has devoted available research time to study of the amphipods collected in the vicinity of the Tortugas Laboratory of the Carnegie Institu-

tion, by Doctor Schmitt, Dr. T. W. Vaughan, Capt. F. A. Potts, and others. Work has been continued from time to time upon the amphipods secured during the fisheries research project of the Biological Board of Canada in the Gulf of St. Lawrence in 1917. The report on the amphipods collected by Frits Johansen in Hudson Bay in 1920, finished last year, is about to appear in print; while a report on the amphipods of the family Bateidae has been completed and published by the Museum, as noted in the accompanying bibliography. Much current amphipod material sent to the Museum during the past year has been identified as received, and the sorting and preservation of this year's incoming collection has been completed. Mr. Shoemaker's accomplishments in building the amphipod collections to their present state of excellence are particularly to be commended, as of the several sections of crustacea covered by the division, this had been the least studied at the time of his appointment to the scientific staff. J. O. Maloney, aid, has had increasing demands made upon his research time by many calls for determinations of isopods for the Federal Horticultural Board, the number of which has been steadily increasing for several years. Owing to the lack of labor service, Mr. Maloney has been forced to give much time to the care of the alcoholic collections.

Dr. Maynard M. Metcalf, collaborator, spent four months in South America in continuation of his studies on opalinid parasites of frogs. He reports a most successful season and is at present engaged in working up his results. Dr. Max M. Ellis, collaborator, as time has permitted, has continued his studies on discodrilid worms. Dr. William H. Longley, collaborator, professor of zoology at Goucher College and acting director of the Marine Biological Laboratory of the Carnegie Institution, will make a trip to Hawaii and the Dutch East Indies, in continuation of his studies on the coloration of fishes, their food habits, and their relation to invertebrate marine life. These studies are in part in continuation of a research problem undertaken by Doctor Longley and the curator on the feeding habits of fishes of the Tortugas region. H. K. Harring, custodian of the Rotatoria, as in past years continued his intensive studies on rotifers. Mr. Harring will undertake supervision of the literature on Rotifera and Chaetognatha, as section editor for "Biological Abstracts."

Dr. William Healey Dall, honorary curator of the division of mollusks, has devoted his time to various researches during the year. A revision of the Trochidae was made incidental to the work of rearrangement of this group. D. Thaanum, of Honolulu, with J. B. Langford sent specimens collected by them in Japan and the Riu-kiu Islands, which were studied, identified, and several new

forms described. A small collection of mollusks, received from the National Geographic Society, obtained by their Greenland expedition, was studied, and one very interesting new species was found in material from dredging near Etah. Doctor Dall has also prepared a report now in press on a collection of land shells from the Tres Marias, Socorro, and Clarion Islands west of Mexico, secured by an expedition from the California Academy of Sciences. He has also identified and reported on collections made on the coast of Labrador and Hudson Bay for the Biological Survey of Canada. Dr. Paul Bartsch, curator of mollusks, has nearly completed a monograph on the family Naninidae. The major portion of his available time for research during the present year has been devoted to the preparation of a monograph on the Annularidae of the West Indies, which is about half completed. He has also prepared papers describing new mollusks from various localities in the new world, and on the shipworms secured in Philippine waters by the United States Bureau of Fisheries expedition in 1907–1910. William B. Marshall, assistant curator, has completed a report on the pearly fresh-water mussels collected during the United States Bureau of Fisheries pearl mussel investigation in the Mississippi Valley. He has also made a study of the shells of the genus Mulleria, giving especial attention to the methods by which they attach themselves to the bottom of streams, discussing the grotesque forms that arise through their molding themselves about surfaces and into crevices. He has submitted for publication a paper describing 12 new species from Central and South America.

The research work of Austin H. Clark, curator of echinoderms, has consisted in completion of the synonymies of all the recent unstalked crinoids, and the redescription of nearly all of them, in connection with the preparation of a forthcoming part of Bulletin 82. This work, which is very exacting, proved more laborious than had been anticipated; but it is hoped that the manuscript for this part may be completed during the summer months. No other research work in the echinoderm field was undertaken, it being the curator's intention to concentrate all his energies on the completion of this monograph.

Dr. Frederick V. Coville, curator of plants, has continued his studies upon the breeding and propagation of blueberries (Vaccinium), as well as similar work with the gooseberries (Grossularia). Dr. J. N. Rose, associate curator, continued studies of the family Caesalpiniaceae, in collaboration with Dr. N. L. Britton, director of the New York Botanical Garden, with a view to the publication of a monograph of the North American species. He has begun, also, a study of the related family, Mimosaceae. In addition, he has

given attention to the Cactaceae and Crassulaceae, in continuation of earlier monographic studies. Dr. W. R. Maxon, associate curator, continued work upon tropical American ferns, and completed a descriptive account of the ferns of Porto Rico (recently published). In connection with the latter undertaking, he studied and revised the determinations of many groups of West Indian and continental American ferns. Paul C. Standley, associate curator, read the proofs of the fifth and final part of the Trees and Shrubs of Mexico. He nearly completed an account of the flowering plants of the Panama Canal Zone, and published several short papers describing new species of Mexican and Central American plants. At the request of the botanists of Costa Rica, he has undertaken to prepare a list of the plants of Costa Rica, to be accompanied by economic and other data. In this connection it may be mentioned that a bulletin upon the wild flowers of Glacier National Park, prepared for publication over six years ago, at the request of the National Park Service, has been approved recently for printing by that office, and it is expected that it will be published in the near future. Emery C. Leonard, aid, has continued studies of West Indian plants, and has done some work upon a proposed synoptic flora of Haiti. He completed a revision of the American species of Scutellaria, and has begun studies of the family Convolvulaceae. Ellsworth P. Killip, aid, has nearly completed an account of the genus Passiflora, and has continued his studies of tropical American Urticaceae. He has undertaken monographic accounts of several groups of South American plants. In prosecution of these studies in the summer of 1925 he visited several of the large European herbaria for the purpose of consulting types and other collections.

Dr. James P. Chapin, American Museum of Natural History, New York, named about 200 skins of African birds, and Dr. Herbert Friedmann, Cambridge, Mass., determined a few from the same region. W. E. C. Todd, Carnegie Museum, Pittsburgh, Pa., identified a few species of birds from South America. Some identifications of snakes were made for the National Museum, by Dr. Malcolm Smith, London, England, Dr. Afranio do Amaral, Cambridge, Mass., and Dr. F. N. Blanchard, University of Michigan; Dr. E. R. Dunn, Smith College, Northampton, Mass., determined a number of salamanders. An arrangement was made with Dr. Henry W. Fowler, Academy of Natural Sciences, Philadelphia, for a report upon certain families of Philippine Island fishes, mostly collected during the cruise in the archipelago of the Bureau of Fisheries steamship *Albatross*. Several thousand pages of manuscript have already been received. Among the numerous entomologists who have identified whole groups or individual specimens are C. Howard Curran, Ottawa, Canada; M. Bezzi, Turin, Italy; C. P. Alexander, Amherst, Mass.;

F. Hendel, Vienna, Austria; and E. T. Cresson, jr., Philadelphia, Pa. (flies); William T. Davis, Staten Island, N. Y. (cicadas); R. W. Dawson, St. Paul, Minn.; W. D. Funkhouser, Lexington, Ky.; H. B. Hungerford, Lawrence, Kans.; Robert J. Sim, Riverton, N. J.; E. Liljeblad, Chicago, Ill., and A. d'Orchymont, Belgium (beetles); C. H. Kennedy, Columbus, Ohio (dragonflies); H. T. Fernald, Amherst, Mass. (wasps); T. H. Frison, Urbana, Ill., and H. F. Schwarz, New York City (bees); C. R. Crosby, Ithaca, N. Y. (spiders). Spiders were also sent to the Museum of Comparative Zoölogy for identification. The division of marine invertebrates has been assisted by a number of unofficial collaborators, to whose indispensible services the curator gratefully credits the successful working of the division. Those who have kindly named material, or to whom collections have been submitted, include the following: Dr. H. Boschma (rhizocephalids); Dr. L. R. Cary (alcyonarians); Dr. R. V. Chamberlain (annelids and Gephyrea); Dr. Henri Coutière (Crangonidae); Dr. Joseph A. Cushman (Foraminifera); Prof. G. S. Dodds (fresh-water Entomostraca); Prof. Max Ellis (discodrilids); Dr. A. G. Huntsman (ascidians); Dr. C. Dwight Marsh (fresh-water copepods); Dr. Maynard M. Metcalf (Salpa, Pyrosoma, Protozoa); Dr. Raymond C. Osburn (Bryozoa); Capt. F. A. Potts (rhizocephalids); Miss Caroline E. Stringer (Tubellaria); Dr. W. M. Tattersall (Mysidacea); Mr. Frits Johansen, Department of Marine and Fisheries, Ottawa, Canada (phyllopods); Prof. T. Kaburaki, Science College, Tokyo, Japan (flatworms from China); Dr. J. Percy Moore, University of Pennsylvania, Philadelphia, Pa. (leeches from China); Dr. H. B. Bigelow, Museum of Comparative Zoölogy, Cambridge, Mass (Medusae ctenophora); Dr. C. C. Nutting, State University of Iowa, Iowa City, Iowa (hydroids); Dr. H. A. Pilsbry, Academy of Natural Sciences, Philadelphia, Pa. (barnacles); Dr. Frank Smith, University of Illinois, Urbana, Ill. (earthworms); Dr. A. L. Treadwell, Vassar College, Poughkeepsie, N. Y. (annelid worms); Dr. W. G. Van Name, American Museum of Natural History, New York City (ascidians); Dr. Charles B. Wilson, State normal school, Westfield, Mass. (copepods); Dr. H. V. Wilson, University of North Carolina, Chapel Hill, N. C. (sponges).

In this connection may be mentioned the generous assistance rendered by the Scripps Institute for Oceanography through the director, Dr. T. Wayland Vaughan, in determining the salinity of 20 or more water samples obtained by Doctor Schmitt in his studies on the South American macruran fauna.

The curator of mollusks gratefully acknowledges assistance rendered by Dr. Frank C. Baker, University of Illinois, Urbana, Ill., in all cases where critical determinations in the genus Lymnaea were involved. He also wishes to place on record in this connection the

extremely generous offer of Charles T. Simpson, of Little River, Fla., to assist financially in researches on West Indian land shells through a fund established for the purpose. Through special services provided by this means there has been considerable progress in measuring shells, in taking and transcribing shorthand descriptions, and retouching photographs for illustrations to be utilized in reports on this subject.

The curator of echinoderms reports that Dr. Th. Mortensen, of the Zoological Museum, Copenhagen, Denmark, has completed a report to the Museum on the Cidaridae of the *Albatross* Philippine Expedition. Dr. H. L. Clark is still engaged in work on the holothurians of the same expedition. Prof. Walter K. Fisher, of Stanford University, continued studies on starfishes in connection with the preparation of the second part of a monograph on the Asteroidea of the North Pacific, which is now well toward completion.

The National Herbarium has been used freely by members of the scientific staff of the Department of Agriculture. Dr. S. F. Blake has revised identifications of many Compositae, especially species of the western United States and tropical America. He has assisted also in classification of current material of this and other groups. Ivar Tidestrom has determined and revised many southwestern plants in connection with his studies of the flora of Arizona. In several groups, it has been necessary to enlist outside help in classification and identification. Among these investigators the herbarum is especially indebted to Dr. G. K. Merrill (lichens); Mrs. N. L. Britton and R. S. Williams (mosses); Dr. B. L. Robinson (Compositae); Dr. J. M. Greenman, St. Louis (*Senecio*); Oakes Ames (orchids); Dr. William Trelease (Piperaceae, *Quercus*, *Agave*); Kenneth K. Mackenzie (*Carex*).

Researches of outside investigators aided by Museum material.—The liberality with which the National Museum opens its doors and lends its material to investigators of proven scientific worth is everywhere known and appreciated. Our most precious treasures may be freely examined while they remain under the care of their responsible custodians, who are always ready to assist the earnest student even though he may be making his first steps in original research, a fact attested by the large number of investigators from this continent or from those most distant, who annually visit and work in our laboratories. In addition, the Museum lends many specimens here and abroad as an aid in promoting researches and solving scientific problems. The scientific investigators of other branches of the Government in Washington are on practically even footing with the staff of the Museum in the daily use of its material.

Dr. Cora D. Reeves, teacher of biology in Ginling College, a school for Chinese girls, Nanking, China, spent considerable time in the Museum, including several days in the divisions of mammals and birds and at least a month in the division of reptiles, to familiarize herself with the vertebrate fauna of eastern China. Dr. Wilhelm Marinelli, assistant in the Second Zoological Institute of the University of Vienna, Austria, worked several days in the division of mammals studying bear skulls. Miss Fannye A. Cook, Crystal Springs, Miss., studied mammals and birds and the Museum records of specimens from Mississippi over a period of several months as an aid in writing a report on their occurrence and distribution in her State. Dr. Glover M. Allen, Museum of Comparative Zoology, did some work on a monograph of the American bats of the genus *Myotis*. Dr. O. P. Hay, Carnegie Institution of Washington, made constant use of the osteological collections in connection with his work on fossil vertebrates of the Pleistocene. Members of the staff of the Biological Survey have made much use of certain vertebrate collections; A. B. Howell was permitted office room in the division of mammals, and Remington Kellogg had use at need of a table in the reptile collection.

Rev. D. C. Graham, of Szechwan, China, during approximately two weeks' stay in Washington, was given instruction in collecting and preparing study specimens of mammals and birds. Dr. Peter P. Sushkin, director of the Zoological Museum of the Russian Academy of Sciences, Leningrad, Russia, spent several weeks studying various Asiatic birds and in work on the collection of bird skeletons. Dr. John C. Phillips, Wenham, Mass., examined many birds, chiefly ducks and geese, during winter and early spring. Jean Delacour, Château de Clères, Seine Inférieure, France, on his return from Indo-China, examined bird material particularly from eastern Asia. Dr. Hugo Weigold, director of the natural history collections in the Provincial Museum of Hanover, Germany, studied methods of installation and preservation, including construction of storage cases, in use in the National Museum. During a brief visit W. W. Bowen, of the museum at Khartum, Sudan, examined some African birds and likewise studied our methods of installation and labeling. Dr. Frederick Wood Jones, Adelaide, South Australia, inspected Australian species of albatrosses. Dr. Stepan Soudek, assistant at the Zoological Institution of the College of Agriculture and Forestry, Brno, Czechoslovakia, examined certain palearctic birds. Dr. Herbert Friedmann, Cambridge, Mass., brought a series of African birds for comparison during a visit of several days. Prof. E. H. Forbush, Boston, Mass., examined the series of North American hawks. Dr. Walter Koelz, Ann Arbor, Mich., studied Arctic species of birds, particularly shore birds and birds of prey. Among other ornithologists who

visited the division of birds to examine specimens, records, or literature may be noted the following: Henry B. Conover, Chicago, Ill.; James Bond and R. M. de Schauensee, Philadelphia, Pa.; Stuart T. Danforth, Ithaca, N. Y.; Robert Cushman Murphy, American Museum of Natural History, New York City; Dr. L. C. Sanford, New Haven, Conn.; Hashima Muryama, Washington, D. C.; Herbert W. Brandt, Cleveland, Ohio; W. E. Clyde Todd, Pittsburgh, Pa.; Dr. C. W. Townsend, Boston, Mass.; James R. Gillin, Ambler, Pa.; R. Williams, Washington, D. C., and John K. Magneder, Clarendon, Va.

Dr. Malcolm Smith, former director of the natural history museum at Bangkok, Siam, visited the division of reptiles and batrachians to examine collections, particularly of the marine snakes, on which he is preparing a monograph. Other herpetologists, some of whom made repeated visits were Dr. Thomas Barbour, Museum of Comparative Zoölogy; Karl P. Schmidt, Field Museum of Natural History; Dr. E. R. Dunn, Smith College, and Dr. Afranio do Amaral, formerly of Butantan, São Paulo, Brazil.

In the division of fishes Dr. Henry W. Fowler, of the Academy of Natural Sciences, Philadelphia, has spent several weeks from time to time in connection with the forthcoming report on the Philippine Island fishes.

A considerable number of entomologists not on the staff worked with the insect collections for periods varying from a day to several months in connection with various studies and researches. Officials of the Bureau of Entomology not on the custodial staff of the Museum naturally utilized the collections to the greatest extent. Thus, C. F. W. Muesebeck, of the gipsy moth laboratory, spent about six weeks in the Museum studying Braconid flies; R. A. St. George, of the Bureau of Entomology, continued his investigations on the larvae of beetles belonging to the family Tenebrionidae, conducting all his studies with materials in the national collection, and working most of his time in the Museum; J. E. Walters, of the Federal Horticultural Board, made studies on thrips in the Museum after office hours; Prof. J. B. Parker, of the Catholic University, continued studies on Sphecoid wasps, spending approximately one day a week working in the Museum; Dr. H. C. Huckett, Riverhead, N. Y., spent two weeks examining material of Anthomyiid flies of the genus Hylemyia; Dr. W. T. M. Forbes, of Cornell University, for about 10 days studied types and other specimens of macro- and microlepidoptera in the collections; J. Douglas Hood, University of Rochester, for a similar length of time studied types of Thysanoptera. Among many others who availed themselves of the facilities of the division may be mentioned Miss Grace Sandhouse, Robert M. Fouts, Dr. Ray T. Webber, L. G. Gentner, Dr. Joseph Bequaert, Boston; Dr. William A. Hoffman, Johns Hopkins University;

S. W. Bromley, New York City; H. C. Fall, Tyngsboro, Mass.; M. L. Liljeblad, Field Museum of Natural History; W. J. Holland, Carnegie Museum, Pittsburgh, Pa.; Harold S. Peters, University of Ohio; H. F. Schwarz, American Museum of Natural History, New York City; and Dr. W. V. Balduf, University of Illinois.

Miss M. M. Stadnischenko, of the Geological Survey, spent some time in studying the mounted series of Foraminifera in the division of marine invertebrates. A number of the collaborators of that division have visited the Museum on business connected with research studies on which they are engaged, based in part, or wholly, on Museum material. Among such visitors were Dr. J. A. Cushman, Dr. C. B. Wilson, Dr. C. Dwight Marsh, Dr. Wm. H. Longley, Dr. H. B. Bigelow, Dr. Charles J. Fish, Dr. H. Boschma, and Dr. A. G. Huntsman.

The collections of recent mollusks have been consulted constantly by Drs. W. P. Woodring, C. W. Cooke, Julia A. Gardner, and W. C. Mansfield, of the Geological Survey staff, in the pursuit of their studies on Tertiary mollusks. Miss Lucy Reardon and Mrs. F. Beij have worked on the anatomy of pearly fresh-water mussels of the District of Columbia; their studies will be offered shortly for publication; Miss Elizabeth Parker has worked upon radulae of the Philippine species of the family Neritidae, and has correlated these anatomical structures with forms of the operculum, both of which have been used independently as a basis of classification; Miss Harriet Bundick has studied the Philippine species of the family Scalidae; Mrs. Ruth Hart has made a series of preparations and drawings of radulae of Philippine melanians; Samuel Koronefsky has worked on the anatomy of the Philippine viviparas, and Louis D'Elia, John Borelli, and Irving Erschler have prepared radulae of West Indian annularids. Mr. Kenneth Smoot devoted odd times to biometric and anatomic studies of mollusks; Mrs. Mary Quick Bowman as time permitted has continued the dissection of 100 specimens of hybrid Cerions from Newfound Harbor Key, Fla., a task of several years standing that, when completed, will furnish basis for a discussion of changes produced in the anatomy of these organisms by hybridization. This work has been done for the Carnegie Institution of Washington. Among others who have spent varying lengths of time, ranging from a few hours to weeks, in the division of mollusks, examining and studying material, the following may be mentioned: Dr. Hugo Weigold, director of the Provincial Museum, Hanover, Germany; Mrs. I. S. Oldroyd, Stanford University, Calif.; Curtis A. Perry, Bridgton, Me.; Dr. R. H. Stevens, Detroit, Mich.; Calvin Goodrich, Newark, N. J.; Mrs. Louis Perry, Sanibel, Fla., Irvin H. Hoffman, Washington,

D. C.; D. LeLabron Perrine, Miami, Fla.; Mrs. J. F. Hicks and her brother Captain McCormick, of Bristol, Tenn.

The coral collections have been used during the year by Dr. T. Wayland Vaughan, Dr. J. Edward Hoffmeister, Dr. H. Boschma, and Lieut. Col. Sir Matthew Nathan while visiting in Washington.

Dr. Walter K. Fisher, of Stanford University, spent some time in the division of echinoderms studying the collection of starfishes; in addition, specimens were sent to him for examination.

Many professional botanists have visited the herbarium to examine specimens. Among these may be mentioned the following (with the groups in which they were interested): Dr. L. H. Bailey, Ithaca, N. Y. (United States species of *Rubus*); Dr. E. W. Berry, Johns Hopkins University (in connection with studies of fossil plants); Dr. Frederick O. Bower, University of Glasgow (ferns); Dr. George Voronoff, Leningrad, Russia (*Sapium* and rubber-yielding plants); Prof. Bungo Miyazawa, Miyazaki, Japan (flora of Yosemite National Park); Mrs. Mortimer J. Fox, New York City (the genus *Lilium*); Prof. M. A. Chrysler, Rutgers College (ferns); Dr. J. M. Greenman, Missouri Botanical Garden (*Senecio*); C. A. Weatherby, Gray Herbarium (ferns); Clarence E. Kobuski, Missouri Botanical Garden (*Dyschoriste*); Mrs. George C. Wheeler, New York Botanical Garden (ferns); Prof. W. L. Jepson, University of California (flora of California); H. Pittier, Caracas, Venezuela (flora of Venezuela); Dr. P. H. Rolfs, Vicosa, Brazil; Prof. H. H. Bartlett, University of Michigan (identification of prehistoric plants); Dr. William Trelease, University of Illinois (Piperaceae); Dr. M. A. Howe, New York Botanical Garden (algae); Dr. Ivan M. Johnston, Gray Herbarium (Boraginaceae).

Much assistance has been rendered to outside investigators through the loan of specimens. The wealth of the national collections in biology is such that few comprehensive studies can be carried out without material assistance from its treasures, as is amply indicated in the appended bibliography. The incidental benefit derived by the Museum from critical revision of its material in comparison with that preserved elsewhere is of course recognized and gratefully acknowledged. The following includes the most important loans during the year: From the division of mammals, three llama skeletons were lent to the Museum of Paleontology of the University of California, for study and comparison by Chester Stock with a closely related form from the Pleistocene asphalt deposits at McKittrick, Calif. Leg and foot bones of the genus *Alouatta* were lent to Dr. William L. Straus, jr., Johns Hopkins Medical School, for study in connection with the problem of the nature and inheritance of webbed toes in man. Skins, skeletons, and alcoholics were sent to the Museum of Vertebrate Zoology, University of California, for Dr. J. Grinnell,

H. S. Swarth, and E. R. Hall; to George E. Mason, London, England, and to the University of Rochester School of Medicine for Dr. F. F. Snyder. Bird skins were borrowed as follows: By the American Museum of Natural History, New York City, for Dr. J. Dwight and Messrs. Miller and Griscom; Carnegie Museum, Pittsburgh, for E. G. Holt and W. E. Clyde Todd; Colorado Museum of Natural History, Denver, Colo., for A. M. Mailey; Field Museum of Natural History, Chicago, to assist Dr. C. E. Hellmayr in the preparation of his Catalog of Birds of the Americas; Museum of Comparative Zoölogy, Cambridge, Mass., for O. Bangs and J. L. Peters; also to the following ornithologists: Donald R. Dickey, Pasadena, Calif.; Real Admiral Hubert Lynes, London, England; and Arthur T. Wayne, Mount Pleasant, S. C. Two alcoholic specimens of birds were lent to Dr. Malcolm Smith, London, England. Specimens of reptiles or amphibians were loaned to John Paul Jones, Ann Arbor, Mich.; Dr. Thomas Barbour and Dr. Afranio do Amaral, Museum of Comparative Zoölogy; Dr. Karl P. Schmidt, Field Museum of Natural History; Dr. E. R. Dunn, Smith College; Dr. F. N. Blanchard, University of Michigan; Dr. A. I. Ortenburger, University of Oklahoma; and the University of Kansas. Dr. A. R. Cahn, Oconomowoc, Wis., and Dr. Henry W. Fowler, Academy of Natural Sciences, Philadelphia, borrowed a number of fishes.

Of the more than 10,000 insects sent out during the year, 5,638 were lent to specialists in this country for study in connection with various investigations. Important collections of Foraminifera were forwarded to Dr. Joseph A. Cushman, Sharon, Mass., in connection with his monographic studies of these organisms. To M. W. deLaubenfels, Hopkins Marine Laboratory, California, there were sent 39 lots of West Indian sponges. Some crustaceans were lent to Robert Gurney, Norwich, England, and to Miss Belle A. Stevens. Seattle, Wash.; Bryozoa to Prof. Raymond C. Osborn, of the University of Ohio, in connection with his report on the Gulf of California Bryozoa.

The botanical material lent to institutions or to individuals outside of Washington consists of 4,985 specimens comprised in 94 lots, while 8 investigators connected with the Department of Agriculture have borrowed for study 70 lots of plants, amounting to 3,076 specimens. The local herbarium of plants from the District of Columbia has been consulted frequently by persons interested in the flora of this region. The more important sendings were as follows: University of Illinois, 756 specimens; Botanical Garden and Museum, Berlin-Dahlem, Germany, 464 specimens; Edwin B. Bartram, Bushkill, Pa., 431 mosses; Dr. E. D. Merrill, Berkeley, Calif., 415 shrubs; Royal Botanic Gardens, Kew, England, 354 specimens; Stanford University, California, 280 specimens of *Arabis;* Pomona College,

Claremont, Calif., 266 specimens; University of California, 243 plants; Oakes Ames, Boston, 220 orchids; Prof. Hugo Glück, Heidelberg, Germany, 197 aquatic plants; Gray Herbarium of Harvard University, 186 specimens; Natural History Museum, Vienna, Austria, 184 Lobeliaceae; and New York Botanical Garden, 175 specimens of various genera.

ASSISTANCE BY MEMBERS OF STAFF TO OTHER GOVERNMENT BUREAUS AND PRIVATE INDIVIDUALS.

Much time on the part of the staff is taken up by replies to inquiries of a scientific nature from various Government offices or private individuals and the identification of material of all kinds submitted for determination and investigation. Questions relating to the preservation of specimens, museum technique, references to literature sometimes amounting to requests for complete bibliographies, advice regarding contemplated expeditions, inquiries about the hoopsnake, the age of whales, double eggs and other malformations, how to make a living by catching butterflies, requests for the addresses of dealers in rattlesnake oil, may be mentioned as among the daily routine which is attended to properly and promptly.. In addition personal inquiries by visitors to the Museum require careful and courteous attention. Trivial as many of the questions may appear, their proper answer is nevertheless an important part of the function of the institution in the diffusion of knowledge among men. Problems submitted may be of considerable importance and may require the research of specialists for a number of days.

In the division of mammals, in addition to the usual miscellaneous inquiries, 26 lots of specimens, containing about 130 individuals, were submitted for examination and report. The staff of the division of birds gave frequent assistance to members of the Biological Survey and occasionally to the authorities of the National Zoological Park in the identification of specimens. Data on shore birds were furnished A. C. Bent for use in the preparation of a bulletin on life histories of the species of this group. B. H. Swales spent some time in compiling data on the migration of Michigan birds for Mrs. U. S. Funk for a book on the birds of the Mississippi Valley. Instructions in preparing field specimens were given to Dr. E. Menzel, about to visit India, and to Rev. D. C. Graham, who expects to take up work again in western China in 1927. Eleven lots of birds or fragments of birds, comprising about 386 specimens, and a collection of eggs were received for identification. In the division of reptiles and batrachians Miss D. R. Cochran identified a number of lizards and frogs taken by the Federal Horticultural Board at points of entry for foreign plants, and also specimens for the Bu-

reau of Fisheries. Written reports on 34 separate lots of material were submitted on material sent in for determination. In the division of fishes three lots were similarly determined. Doctor Aldrich, acting as specialist in Diptera for the Bureau of Entomology, identified most of the adult flies submitted for examination, while C. T. Greene determined those in the larval stages. Doctor Aldrich also identified material for the entomological department of the Federated Malay States and for the entomological branch, Department of Agriculture, Canada, besides many shipments for individual investigators in this country and abroad, comprising in all 136 lots. While in Guatemala during the spring of 1926 he assisted the Government of that country in an investigation of the parasites of the migratory locust. In the other sections of the division of insects, 5,534 lots of material have been identified, involving 9,414 identifications. In addition much assistance was rendered outside specialists by correspondence. A detailed report of these activities would fill many pages.

In the division of marine invertebrates, assistance has been rendered members of the scientific staff of the Biological Survey in the identification of invertebrate remains, chiefly crustacea, found in stomachs of animals whose food habits are being investigated; the Bureau of Fisheries, in the determination and furnishing of information relative to marine and aquatic invertebrates; the Bureau of Entomology in naming miscellaneous invertebrates collected in the course of their field operations; and the Federal Horticultural Board in identifying invertebrates found associated with various plant importations. Dr. M. J. Rathbun made numerous determinations of fossil crustacea for the Geological Survey. Considerable assistance was given university professors and students in research and thesis work, either in the form of references or information, or by furnishing authoritative identifications of the material upon which their studies are based. Such assistance was rendered a large number of institutions of learning in our own country, and to universities, museums and government bureaus in Mexico, Hawaii, Japan, China, Australia, Italy, and elsewhere. For private individuals in various parts of the world 18 lots, comprising 389 specimens, were identified. Altogether more than 3,700 identifications were made. The curator of the division of mollusks reports that from the Federal Horticultural Board came 74 lots of material, intercepted at various ports in connection with their inspection work and sent to us for determination and advice. The curator, with Mrs. Mary Quick Bowman, an instructor at George Washington University, prepared a minute account of the anatomy and habits of *Zonitoides arboreus* Say, which was found to be responsible for the initial lesions causing sugar cane wilt disease in Louisiana, resulting in losses of millions of dollars annually. The

positive determination of the organism in question required the minute study to which it was subjected. Studies and reports were made on other mollusks held responsble for similar ravages in Hawaii and Cuba. The Bureau of Fisheries was assisted in the critical determination of material, as were various members of the Geological Survey in determining the relationship between recent and fossil forms. In addition a vast number of mollusks included in 3,031 lots was determined for other institutions and individuals during the year.

Austin H. Clark, in his capacity as curator of echinoderms, discussed informally the starfish problem with authorities of the Bureau of Fisheries concerned with oyster investigations. Fourteen lots of material were received for identification in this division, among them two of considerable size, one from Canada, the other from Brazil.

The members of the staff of the National Herbarium gave help continually to many individuals and to scientific and educational institutions, by furnishing advice and information with regard to such botanical matters as herbarium management, economic uses of plants, plant distribution, botanical literature, and above all in the identification of collections. This last phase of the work has attained large proportions. The records indicate 290 lots of plants, consisting of 13,535 specimens, which were determined during the past year, but the actual number is considerably greater. These collections have come from individuals and also from numerous scientific and educational institutions. While the larger part of the material has been of American origin, there have been identified small lots from remote regions. The quantity of material received has been so great that it has been very difficult to dispose of it promptly. Numerous lots of plants have been identified for the United States Department of Agriculture, especially the Bureaus of Plant Industry and Biological Survey, and a few specimens have been received from other departments. Many specimens came from the American Nature Association, and almost daily during the summer months plants are brought to the herbarium by private individuals, with a request for their names. Several large collections have been received for determination during the past year. Some were sent by botanical institutions in the United States, and others from similar establishments in Europe. Material has been identified for many private individuals and governmental institutions in Mexico, the West Indies, and Central and South America. In most cases the material forwarded for determination is retained for incorporation in the National Herbarium, and it is thus that many of the most valuable additions to the herbarium are received. Doctor Maxon has identified many collections of ferns, and Mr. Standley numerous lots of flowering

plants from the western United States, Mexico, and Central America. Flowering plants from South America have been determined by E. P. Killip and Dr. S. F. Blake, and those from the West Indies and southern United States by E. C. Leonard. Doctor Rose has named Caesalpiniaceae, Cactaceae, and various other groups, and Dr. A. S. Hitchcock and Mrs. Agnes Chase the grasses.

VISITS TO OTHER INSTITUTIONS OR PLACES ON OFFICIAL WORK

Lack of funds available has been responsible for the fact that travel on the part of the staff for attendance at meetings or work at other institutions has been at personal expense. Drs. A. Wetmore and C. W. Richmond, incidental to the meeting of the American Ornithologists' Union in New York City in November, 1925, examined various birds in the American Museum of Natural History. William B. Marshall, assistant curator of mollusks, paid a short visit to the Academy of Natural Sciences of Philadelphia, to make critical comparisons of material. During the summer of 1925 Ellsworth P. Killip, of the division of plants, spent several weeks in Europe, visiting the important herbaria of Paris, Geneva, Berlin, and London. Many specimens from the United States National Herbarium were compared with type material in the historic South American collections of those herbaria, and photographs of many type specimens were made for deposit in the National Herbarium. Mr. Killip examined in particular the collections of Passifloraceae, in connection with his monographic studies of that family. Dr. J. N. Rose spent 10 days at the New York Botanical Garden, working in collaboration with Dr. N. L. Britton on the family Caesalpiniaceae. Austin H. Clark, curator of echinoderms, was detailed for one month during the summer of 1925, for work in the Museum of Comparative Zoölogy, Cambridge, Mass., in connection with the manuscript of the forthcoming part of his monograph of the existing Crinoids.

Dr. W. Schaus, honorary assistant curator in the division of insects, went to France during the summer to pack and ship the Dognin collection of Lepidoptera, and while in Europe, spent considerable time studying material in the British Museum of Natural History.

All traveling expenses were borne personally by the members of the staff that have been mentioned.

DISTRIBUTION AND EXCHANGE OF SPECIMENS

Duplicates distributed to high schools, colleges, and other similar institutions aggregated 2,471, of which 894 consisted of mollusks in 6 prepared sets and 571 fishes in 7 sets.

Exchanges to the number of 31,390 were sent out, of which 2,675 were zoological specimens. Of the 28,715 plants thus distributed,

exchanges comprising lots of 1,000 specimens and over were sent to the Arnold Arboretum; Botanical Garden and Museum, Berlin-Dahlem, Berlin, Germany; University of California; Botanical Museum of the University, Copenhagen, Denmark; Royal Botanic Garden, Edinburgh, Scotland; Field Museum of Natural History, Chicago, Ill.; Gray Herbarium, Harvard University; Hungarian National Museum, Budapest, Hungary; New York Botanical Garden; Herbarium of the Natural History Museum, Paris, France; and the botanical section of the National Museum, Stockholm, Sweden.

NUMBER OF SPECIMENS UNDER DEPARTMENT OF BIOLOGY

The number of specimens, including duplicates, as far as it has been ascertained by count and subsequent estimate, or by estimate alone, now exceeds seven and one-half millions. The total number is probably much greater, since several collections, such as the helminths and the corals, have not been included in the estimates, nor does the number of plants given below include unmounted material or the lower cryptogams.

Division:		
Mammals		81,997
Birds—		
Skins	229,228	
Alcoholics	7,436	
Skeletons	9,057	
Eggs	81,363	
		327,084
Reptiles and amphibians		81,068
Fishes		691,439
Insects		2,618,859
Marine invertebrates		745,279
Mollusks		1,576,508
Echinoderms		151,589
Plants		1,255,450
Total		7,529,273

REPORT ON THE DEPARTMENT OF GEOLOGY

GEORGE P. MERRILL, *Head Curator*[1]

INTRODUCTION

Gratifying progress in the care and increase of the collections and in the accomplishment of work planned is reported from all divisions of the department, the result in part of cooperation with other institutions and individuals. The recorded accessions show a decided increase, and although the total of specimens received is less than last year, very choice and much needed materials are included.

To retain a satisfactory esprit de corps, travel and intercourse with other workers are essential, with occasional field trips for broadening knowledge and outlook. These are at present available only at personal expense, which rarely can be afforded, or through cooperation with other institutions. Fortunately various members of the staff were enabled to make arrangements whereby expeditions over widely scattered areas were financed. This is particularly true in the paleontological divisions, where expeditions to Great Britain and the Continent as well as to various localities in America, including the Central States, New York, British Columbia, the Grand Canyon in Arizona, and Florida, were undertaken with satisfactory results both in the collecting of materials and in knowledge acquired from field observations. Nor did such cooperation cease with the field work, since further assistance was rendered in the preparation and study of the materials thus obtained. Without such help on the part of friends of the Smithsonian Institution, the present small staff could have done little more than keep the extensive series of materials now in hand in proper condition for study by others.

Late in the fiscal year the head curator was detailed to attend the meeting of the International Geological Congress at Madrid as representative of the Institution, and later to visit various museums throughout Europe. The assistant curator of mineralogy and petrology, under the auspices of Harvard University, also was detailed for extended work in Mexico. Reports on these journeys must necessarily be deferred until next year.

[1] Report prepared by R. S. Bassler, as acting head curator, during temporary absence of Doctor Merrill on official detail.

ACCESSIONS FOR THE YEAR

The accessions for 1924–25 numbered 198, with an estimated total of 79,674 specimens; those for the present year are tabulated below.

Divisions	Accessions	Specimens
Geology, systematic and applied	58	7,040
Mineralogy and petrology	55	512
Stratigraphic paleontology	71	38,198
Vertebrate paleontology	37	145
Total	221	45,895

These figures represent permanent acquisitions and do not include deposits or duplicates.

As in previous years, the main mass of the material received in the division of geology was transferred from the United States Geological Survey, 28 of the recorded accessions being credited to that organization. The bulk of this material is so great as to present some difficulty in its proper distribution and preservation. Principal among these acquisitions in both quantity and value of specimens is a reference collection, chiefly of ores of the rarer metals, assembled by Frank L. Hess during many years of field work, which unquestionably constitutes the most complete series of American uranium, vanadium, nickel, cobalt, tungsten, molybdenum, and tin ores in existence.

Series of ores from the chromite deposits of Kenai Peninsula and the tin areas of Seward Peninsula illustrate some phases of the economic geology of Alaska. Collections characterizing various ore deposits of the United States constitute the majority of other lots transferred, among which should be noted a suite from the Michigan copper district, to be described by B. S. Butler in a forthcoming professional paper; a series showing the unusual strontium deposits of California; and a set illustrating the geology of the Homestake Mine at Lead, S. Dak. Two additional collections consist of carnotite-bearing materials from southern Nevada and sediments of Tertiary and Cretaceous age from Bighorn Basin, Wyo. Ten small lots illustrate published reports on chrome, manganese, and tin ores. Folio sets covering the Quarryville and McCalls Ferry quadrangles, Pennsylvania, should also be specially mentioned.

Noteworthy accessions to the building-stone collection include a model in Quincy granite of a monument erected in commemoration of the tercentenary of the founding of Quincy, presented by J. S. Swingle, and a massive cube of pink granite, gift of the Harris Granite Quarries Co., of Salisbury, N. C.

A fine series of well-trimmed hand specimens illustrating the formation of the aluminum mineral beauxite through surface weathering of a syenitic rock, furnished by the Aluminum Co. of America, was contributed by Frank L. Hess. These have unusual scientific and educational interest and will be installed as a special exhibit.

Nine large sections of fossil logs from the petrified forest of Arizona were acquired by exchange with R. F. Pettigrew, of Sioux Falls, S. Dak., the equivalent being furnished in ethnological material through cooperation of the department of anthropology.

Additions to the meteorite collection were, with one exception, secured by exchanges; a number of examples of falls new to the collections was secured. Among these are represented the following: Avoca, Ollague, Britstown, Cumpas, Gun Creek, and Mount Ouray, received from Harvard University; Bishop Canyon, South Byron, Santa Luzia, and Coldwater, from the Field Museum of Natural History; Cangas de Onis and Bur-Gheluai, from C. Wendler, Geneva; and Santa Isabel from the Museo Nacional, Buenos Aires. In addition a large slab of the Estherville meteoric stony iron was obtained from the Peabody Museum of Natural History, Yale University, and a portion of an 85-pound mass of the Brenham pallasite, from H. H. Nininger, McPherson, Kans. The Colorado Museum of Natural History, Denver, presented a complete individual, weighing 370 grams, of the Johnstown, Colo., fall.

The late Col. W. A. Roebling, of Trenton, N. J., was again the chief contributor to the mineral collection through donation of a further sum of money for the purchase of needed materials. Eleven accessions are recorded in his name, the materials comprising choice exhibition specimens as well as valuable additions to the study collections. A large, massive pink beryl from Buckfield, Me., weighing about 100 pounds, a blue topaz from California, and a cut section of tourmaline of unusual color, from Maine, are notable exhibition specimens thus secured, while additions to the study collections through Colonel Roebling's aid comprise new phosphates from Hagendorf, Bavaria, manganese silicates from Switzerland, and various minerals from Russia.

The transfer by the Treasury Department of minerals, chiefly gold nuggets, formerly a part of the numismatic collection of the United States Mint at Philadelphia, added considerably to the special exhibit of gold nuggets. These include a nugget weighing 1¾ pounds; an interesting specimen showing gold encrusting a quartz pebble; a group of gold crystals weighing 1⅓ pounds; and numerous smaller nuggets and samples of gold dust.

Mr. Jack Hyland, of Washington, who has been connected with the tin-mining industry in Bolivia for several years, presented a number

of rare minerals and ores, and also deposited his private collection, consisting chiefly of choice Bolivian tin minerals. The Museum is privileged to use this collection for exhibition and study for an indefinite time.

The Government of British Guiana, through Sir John Harrison, presented a small nugget of a rare palladium amalgam locally termed "potarite," found among concentrates from diamond-bearing gravels in that country. This mineral is of great rarity, only 39 grams having been found, which have been sparingly distributed to leading museums. The specimen presented to the National Museum is probably the only one in North America. Also of importance are minerals from Greenland and Bolivia, gift of George Vaux, Bryn Mawr, Pa., and examples of the rare stibiotantalite from Mesa Grande, Calif., presented by Ernest Schernikow.

Of outstanding importance for exhibition purposes is a large group of fluorite crystals 25 inches in length, presented by the Benzon Fluorspar Co., Cave-in-Rock, Ill. This specimen, on account of its large size and perfect form of crystallization, is thought to be the most unusual example of this mineral yet brought to public attention in America. The generous spirit of the company in placing it for permanent preservation in the national collections is greatly appreciated.

Exchanges in the division of mineralogy include large masses of augite, hornblende, and lepidomelane, as well as other Canadian minerals, received from the Royal Ontario Museum of Mineralogy; examples of the new silicate mineral pumpellyite and its associates, from Harvard University; a number of rare minerals from Langban, Sweden, furnished by Dr. Harry von Eckermann; Bolivian minerals, including S. G. Gordon's new species penroseite and trudellite, from the Academy of Natural Sciences, Philadelphia; rare Swedish minerals sent by the Riksmuseets Mineralogiska Avdelning, Stockholm; and exhibition specimens of Nevada opal and California chrysoprase, from Ward's Natural Science Establishment.

A set of glauconite specimens, upon which C. S. Ross based his studies on the optical properties and chemical composition of this important phosphate, was transferred by the United States Geological Survey.

Through the efforts of Messrs. Foshag, Shannon, and Benn, of the staff, various collections of mineral and petrologic specimens were secured in near-by localities in Pennsylvania, Maryland, and Virginia.

Additions to the Isaac Lea collection of gems, through the Chamberlain fund, include five moss agates—the so-called "landscape agates"—from Montana; two cut stones of green tourmaline, weighing 17 and 12 carats, from Paris, Me.; three cut yellow topazes; miscellaneous cut gems of rose quartz, onyx, lapis-lazuli, and jasper;

a Chinese carving of quartz; and a large citrine quartz, uncut. A cut gem of moss agate was presented by the American Gem & Pearl Co., New York City.

The most important material received in the division of stratigraphic paleontology was that collected by members of the staff with the specific needs of the division in mind. The Cambrian and Ozarkian stratigraphic series were augmented by the field activities of Secretary Walcott in British Columbia; the Lower Paleozoic study collections received very welcome additions through the efforts of Drs. E. O. Ulrich and C. E. Resser, who visited various classic localities in Great Britain and on the Continent while with the Princeton-Smithsonian expedition; the middle and upper Paleozoic rocks of the Central States, under study by Dr. R. S. Bassler, yielded no less than 10,000 specimens, including rare fossil crinoids; and from the Middle Devonian rocks of New York, Erwin Pohl obtained many invertebrate and plant fossils which are of especial value in the accurate stratigraphic assignment of the Museum's earlier collections from that system.

Of the total number of accessions recorded in the division, 33 were gifts, many of which, though comprising comparatively few specimens, are of considerable scientific interest. On two occasions, C. H. Belanski presented paratypes of species under description, and similar cooperation on the part of Dr. Joseph A. Cushman added the paratypes of various foraminifera described in his privately published "Contributions." The ever-increasing interest in these microscopic organisms as guide fossils in oil geology adds to the importance of this group. Similar material from Peru and Martinique was presented by Dr. T. Wayland Vaughan. Other much appreciated additions to the study series are sandstone slabs with fossil remains of jellyfish, sent by Letson Balliet, Tonopah, Nev.; examples of intraformational conglomerate from Korea donated by the Geological Institute, Imperial University, Tokyo, through Prof. B. Koto; invertebrates from the Middle Paleozoic rocks of Alaska, received from G. Willett, Prince of Wales Island; Lower Carboniferous crinoid remains from Balfour, Wash., sent by the University of British Columbia through the courtesy of Prof. E. M. Burwash; a series of fossil bryozoans from the Permian of Germany, presented by Ehrhard Voigt, Dessau; an excellent set of Ohio Middle Devonian fossils from the University of Michigan; Ordovician and Silurian fossils from Tennessee, from H. D. Miser, State geologist; and a series of Coal Measures shales with ostracods and conodonts, presented by George S. Buchanan, Tulsa, Okla.

Additions to the Cenozoic collections noted among the gifts comprise numerous specimens; one accession from the Tropical Oil Co., Toronto, consists of 380 distinct collections covering several

thousand specimens, from Colombia, South America, and one from H. G. Kugler, North Venezuelan Petroleum Co., Puerto Cabello, Venezuela, consists of 110 lots from the late Tertiary of Trinidad. Also notable are smaller lots comprising a collection found during excavations for the Guajataca reservoir in Porto Rico, presented by the Isabela irrigation service, and an interesting set of fossil land shells from Kentucky, gift of the State geological survey.

The most important material added to the Mesozoic collections comprises the types and figured specimens illustrating three papers by John B. Reeside, jr., and was transferred by the United States Geological Survey.

Purchases have necessarily been few, but most excellent exhibition material was contained in each of the three lots thus secured. These include a rare, almost complete Devonian trilobite 11 inches in length, a fossil crab, and 25 excellent starfishes and crinoids, mainly from the Paleozoic and Mesozoic rocks of Europe.

In arranging exchanges, particular attention has been directed toward the upbuilding of the collections, with especial efforts to secure material from poorly represented foreign areas, with the result that most desirable specimens have been obtained. Here are included an extensive series of early Paleozoic and late Tertiary invertebrates from Australia sent by the Melbourne Technical School; European Tertiary invertebrates, numbering 270 specimens, from the Royal School of Mines, London; about 50 choice fossils from the early Tertiary and a collection from the Silurian drift of Germany, secured from Ward's Natural Science Establishment; casts of triobites described by Professor Menegheni, from the Geological Institute, Regia University, Pisa, Italy; a cast of a large slab of Chinese Cambrian fossils, from the Senckenbergisches Naturhistorisches Museum, Frankfurt-am-Main, Germany; and a series of British Paleozoic and Cretaceous invertebrates from the University at Bristol, England. Two exchanges from Vanderbilt University, Nashville, Tenn., are of especial interest for the beauty of preservation and variety of the 1,000 or more Devonian and Mississippian fossils contained therein. Similarly an excellent series of Mississippian fossils from Kentucky was secured from the University of Michigan. Eight barrels of Utica shale from Rome, N. Y., obtained from the Peabody Museum of Yale University, was particularly valuable in yielding numerous examples of the trilobite *Triarthrus becki*, some with appendages preserved.

All of the 11 accessions in the section of paleobotany contain interesting additions to the collections; one, consisting of types of fossil algae from the Jurassic rocks of Montana, transferred by the United States Geological Survey, is of especial value. Other acces-

sions contain good study material from such widely separated areas as Pennsylvania, Florida, Mexico, and British Columbia.

The most notable acquisition in vertebrate paleontology is a series of shale and sandstone slabs containing tracks of extinct animals, collected by Charles W. Gilmore from the Hermit, Coconino, and Supai formations on the Hermit and Yaki trails in the Grand Canyon National Park, Ariz. This collection, which considerably exceeds in number of specimens that made from the same region last year, is of unique interest from the fact that it contains three distinct ichnite faunas represented by unusually well-preserved specimens. Preliminary study is sufficient to show the presence of a considerable number of new forms which will greatly augment the list of described tracks from the Coconino and Hermit formations in addition to establishing a fauna for the Supai. Material now on hand gives to the National Museum the distinction of having the best and most extensive collection of Permian footprints of any institution in the world.

In addition to the tracks, the collection includes fossil plants, many of them undescribed forms, as well as the wing of a large flying insect, the first to be found in this region.

Additional footprint material, in this case from the Triassic of New Jersey, was received within the year from Princeton University in exchange.

Through the generosity of Prof. O. M. Ball, of the University of Texas, the Museum received a partial skeleton of a rare crocodilian reptile found by him in the Green River shales near De Beque, Colo. The articulated backbone, with scutes and ribs in place and one ramus preserved, makes this an adequate type specimen, as it appears to represent an undescribed form.

Five fossil turtles, purchased from the well-known collector, Charles Sternberg, prove to be valuable supplemental material to our already extensive collection of chelonian remains from the Upper Cretaceous of New Mexico. The genera Baena and Adocus are represented.

Through exchange with Ward's Natural Science Establishment an exceptionally well-preserved skull of the crocodilianlike reptile *Stenosaurus bollensis* Jaeger, from Holzmaden, Germany, was secured. This is an excellent exhibition object, as is also a cast of a skull of Protoceratops, a small horned dinosaur from Mongolia, received in exchange from the American Museum of Natural History.

The most important fossil mammal material was obtained by Dr J. W. Gidley from the upper layer of the Pleistocene near Melbourne

Fla. About 38 species are represented, as well as several Indian skulls and skeletons from old burial mounds, the most important being a crushed human skull and jaws with a few associated pieces. In addition these collections contain 8 species of reptiles, 5 fishes, and 5 birds. Another collection made by Doctor Gidley comprises a small but important lot of Pleistocene mammals from Long Horn Spring, Okla.

The fossil cetacean series has been materially increased by collections made by N. H. Boss and Remington Kellogg from Chesapeake Bay localities, the most noteworthy specimens being a well-preserved skeleton of *Priscodelphinus atropius* Cope, and a fine skull and portions of the skeleton of a small undescribed form. Aside from their scientific interest, several of the specimens are suitable for exhibition. In addition, various cetacean bones from the Sooke formation of British Columbia were presented by Ira E. Cornwall. Through this last acquisition the Museum now possesses practically all of the vertebrate remains ever found in this formation.

Mention should be made of a type specimen of fossil bison from Huron County, Ohio, and a small collection from Vero, Fla., including type material, presented by Dr. O. P. Hay.

INSTALLATION AND PRESERVATION OF COLLECTIONS

While no radical or extensive changes in the exhibits have been possible, persistent efforts for their improvement are shown by the substitution of new or better specimens for old ones, by more comprehensive labeling and illustrating, and, where possible, by reinstallation. The important changes during the year are as follows:

The Shepard collection of meteorites, which is held as a separate unit, was transferred to a new case conforming in style and size wtih those containing the major part of the meteorite collection which as a whole now presents a more uniform appearance. Although several important additions have been made, the collection still stands numerically fifth among the large collections of the world.

Two new exhibits have been installed in the mineral hall. One of these is a wall case containing unusually large, well-formed crystals of selenite, a variety of gypsum, from a cave in Wayne County, Utah, received some years ago from J. E. Talmage, Deseret Museum, Salt Lake City. Some of these crystals have been used in former exhibits, but a very imposing presentation has resulted by grouping as many as possible in one case. The other special exhibit was made possible by the acquisition of the Hyland collection of Bolivian tin minerals. An entire case is devoted to these instructive specimens, and the beautiful crystallization of many of them adds greatly to the attractiveness of the exhibit.

A large pink beryl, in quartz, has been placed on a special pedestal, and the remarkable crystal ball, mentioned in last year's report as on deposit in the Museum, has been transferred to a specially constructed, more substantial base.

An excellent set of characteristic Silurian and Devonian fossils from the Northern States, selected from the Teller collection, was prepared and installed in the exhibition stratigraphic series. The general appearance of the hall of invertebrate paleontology was greatly improved by the addition of numerous enlarged photographs illustrating the characteristic topography of various physiographic provinces of the United States. These photographs were hung on the wall above the exhibits at the appropriate places which they illustrate in the stratigraphic section across the continent. This series is nearing completion, so that now the student can obtain not only a conception of the characteristic rocks and fossils of each formation, but also the structural and physiographic features of the larger divisions of the country.

The necessity of removing the entire stratigraphic series from the long case against the north wall, owing to requisite work on the case, resulted in a more advantageous arrangement as well as a thorough cleaning of this series.

A display of fossil footprints from the Grand Canyon National Park was installed in the exhibition hall of vertebrate fossils, and a cast of a skull of the primitive horned dinosaur from Mongolia, *Protoceratops*, forms an interesting addition to the exhibit of ceratopsian remains. Five enlarged photographs showing classic fossil localities were hung between the windows along the east wall of the main hall.

In all divisions of the department much effort was expended on the study and reserve collections. The unpacking and preliminary sorting of the collection of ores of the rarer metals transferred by the Geological Survey constitute the largest single piece of work accomplished during the year in the division of geology. This collection is contained in 103 standard drawers and is estimated to comprise not less than 5,000 specimens. The present arrangement is merely preliminary, and several months of work will be necessary in the further sorting, cataloguing, and filing away of the specimens, as well as an enormous expansion of the study series to include them. The material is, however, well worth the work entailed.

The preparation of 100 sets illustrating the process of soil formation by the weathering of rocks was completed and these were turned over for distribution to schools teaching agricultural courses.

Additional storage cases in the division of stratigraphic paleontology, permitted space for continuation of a more logical arrangement of the study series of invertebrate fossils, begun last year. All

members of the division assisted in this work, with the result that the biologic series of Paleozoic corals was greatly enlarged; the peculiar spongelike organisms, stromatoporoids, were assembled into one series; the Paleozoic sponges were all brought together; and a large number of Ordovician and Silurian fossils hitherto stored in the loft were made more accessible for study by their transfer to their proper place on the office floor. Some time was devoted to the labeling of the Teller collection, with very satisfactory progress, and a considerable advance was made in the preparation and installation of the Museum's very abundant Ozarkian and early Ordovician collections, the latter being made possible only through the assistance of R. D. Mesler, of the Geological Survey, and the additional help of Arthur Brown, whose services were furnished by the secretary. At no time in the history of the division have the enormous collections of Paleozoic fossils been so logically arranged and so available for study.

Although most of the efforts of the staff were devoted to the general rearrangement noted above, the work of classifying and installing new accessions and building up of the biologic series were kept up. With the publication of a monograph on the conodonts, a biologic series of that group was inaugurated, which, by the end of the year, had grown to considerable proportions. Many additions were also made to the study series of brachiopods, ostracods, and bryozoans.

The field covered by invertebrate paleontology is so large that it has been found expedient to prepare illustrated catalogues, particularly of those groups containing the most abundant species. During the past year such work was concentrated upon the bryozoans, fossil and recent, owing to numerous calls for information along this line. Miss Beach undertook the preparation of this catalogue and has practically completed cards covering the many thousands of described species.

As in previous years, Doctor Resser has spent practically all of his time in work on the Cambrian collections in cooperation with Secretary Walcott. Four months were occupied in an arrangement of the stratigraphic series into geographic and stratigraphic order to facilitate the secretary's studies on the stratigraphy of British Columbia. Doctor Resser also began a rearrangement of the vast collection of Cambrian brachiopods.

With the ever-increasing number of negatives prepared for the illustration of Cambrian fossils, a system for their recording was perfected and 3,000 negatives catalogued. Upward of 1,200 negatives were made during the year, all relating to work on the Cambrian and allied systems under study by Doctors Walcott and Ulrich.

Field parties of the United States Geological Survey have furnished the principal additions to the Mesozoic collections, and while most of them are not formally transferred to the National Museum until their study is completed, they are kept in the Museum building as a matter of convenience, and virtually become a part of our collections as soon as received. The most noteworthy collections of the past year are those made from the Cretaceous of Utah and Colorado; from the Comanche of Texas; from the Upper Cretaceous of the coastal plain of Texas and Arkansas; from the Jurassic of southwestern Alaska; and from the Triassic and Jurassic of the Tonopah and Hawthorne quadrangles in Nevada. There have been unpacked, recorded, and given preliminary preparation, 516 separate lots, involving that number of locality entries during the year. This work, as well as the general care of the Mesozoic collections, has been carried out by Dr. T. W. Stanton and his assistants. Dr. John B. Reeside, of the survey staff, has made a beginning on the large task of rearranging and condensing the study collections stored in the loft.

Dr. W. H. Dall, in charge of the Cenozoic collections, reports them to be in good condition and fully indexed, although a part still lacks preparation. This is being done as rapidly as possible by the survey preparator.

W. C. Mansfield, also of the survey staff, has supervised the arrangement, numbering, and cataloguing of the Cenozoic collections, and in addition, with the help of W. P. Popenoe, has placed 1,350 slides of foraminifera in form for permanent preservation.

The work of assembling, cleaning, and supplying fresh labels for the fossil plant study series was continued by Erwin Pohl, and many duplicates were eliminated. This lightened the load in the loft considerably, since the newly arranged study material is removed to the floor below and the duplicates placed elsewhere. The specimens were made more readily accessible by the installation of additional storage cases.

While the above outlines the more extensive pieces of work carried on in the division, it does not include the routine work incidental to the preparation of materials variously distributed or the time spent upon the manuscripts which have passed through the office.

The main energies of the preparatory force in vertebrate paleontology have been devoted to the preparation of the Diplodocus skeleton. It can now be reported that practically all of the skeleton except the neck has been completely freed from the matrix. It is estimated that a year or 18 months more will be needed to complete the preparation of this gigantic dinosaur. This work was suspended only for the preparation of material forming the exhibit at the

Sesquicentennial Exposition and to prepare casts or specimens needed for study.

Acknowledgment should be made of Remington Kellogg's assistance in the systematic arrangement of the fossil cetacean collection, which is now in better condition than ever before.

Miss Moodey's time has been fully occupied in looking after the records of the department, assisting in the general care of the collection, preparing and revising manuscripts, proof reading, and general routine. James Benn, in addition to work noted above, has assisted in the care of the collections, and Harry Warner has continued his usual work of preparing specimens for study and exhibition. One lengthy piece of work accomplished by Mr. Warner was the casting of a mold of the great Tucson, or Ring, meteorite.

INVESTIGATION AND RESEARCH

Research by members of the staff.—The head curator has continued his investigations on meteorites to some extent, and has practically completed the manuscript for a semipopular article on that subject prepared at the request of the secretary.

A large amount of Mr. Shannon's time was devoted to research, the results of part of his minor investigations having already been published. Considerable progress was made on his work on the minerals of Maryland and some analytical work was accomplished on the minerals of Connecticut. A beginning was made on a handbook on the ore collections. Several slaglike materials of supposed meteoric origin were analyzed, and, by a cooperative arrangement with the Harvard University mineralogical museum, analyses were made of three meteorites and several minerals and work on the wardite group of minerals continued. In collaboration with Dr. C. S. Ross, of the United States Geological Survey, investigations of clay minerals were continued, and the preliminary results published during the year. The nickel ores of North Carolina were studied, also in collaboration with Doctor Ross, and nickel-iron sulphides were investigated in collaboration with M. N. Short, of the Geological Survey.

Doctor Foshag investigated a new calcium vanadate called rossite, and analyzed several new minerals. Some work was done on the chemical system sodium borate-calcium borate-water with a view of determining the origin of the natural borates, and work on the Hawthorne, Nev., quadrangle was continued. Messrs. Short, of the Geological Survey; Larsen and Berman, of Harvard University; R. B. Gage, of Trenton, N. J.; and H. G. Clinton, Manhattan, Nev., collaborated in the description of new minerals.

Paleontological research has been actively carried on. Doctor Walcott was engaged chiefly on a monograph dealing with the

stratigraphy of the Cambrian and associated rocks of British Columbia in which the observations of several field seasons are assembled for the benefit of future students. Numerous faunal lists and illustrations of the important geologic sections in the area are incorporated in this extensive work which, at the close of the year, is almost ready for publication.

Dr. C. E. Resser's studies were mainly upon the Neolenus-Dorypyge group of Cambrian trilobites, with continuation of his work on the Cambrian paleontology of Wisconsin. His monographic study of the trilobite family Agnostidae, in collaboration with Prof. B. F. Howell, of Princeton University, has been so successfully continued that the completion of the work may be expected during the coming year.

Urgent work on the collections has so occupied the time of Doctor Bassler that he was unable to advance his researches to the extent planned. Material progress was made on the illustration of a monograph on the bryozoans of the Philippines in joint authorship with Ferdinand Canu, about 120 plates being prepared. Two papers, one a description of the recent bryozoans of Morocco and the other on the Tertiary bryozoans of Hungary, were completed and printed in foreign publications. In further collaboration with Mr. Canu, a paper on the classification of the cheilostomatous Bryozoa, clearing up a subject of complicated synonymy, was prepared and offered for publication. Doctor Bassler also edited a paper by G. M. Austin on the Richmond group in Warren and Clinton Counties, Ohio, based on the Austin collection of fossils.

On account of its ever-increasing size, Dr. E. O. Ulrich found it impossible to bring his monograph on the Ozarkian and Canadian rocks of North America to a conclusion as planned, but several important sections on the paleontology and stratigraphy were completed and offered to the United States Geological Survey for publication.

Notwithstanding continued ill health, Dr. Frank Springer has completed his extensive work on American Silurian crinoids, which has been sent to the Smithsonian for publication in conformity with his volumes on the Crinoidea Flexibilia. The paper is illustrated by 33 quarto plates.

Dr. F. H. Knowlton, in continuation of his studies on the flora of the Puget group of Washington, has prepared the descriptions of about 250 species.

Dr. T. W. Stanton has studied the marine Triassic and Jurassic invertebrates from the Tonopah and Hawthorne quadrangles, Nevada, and has worked out the succession of Triassic faunas in that region. He has also given some time to the study of the Comanche faunas of Texas, and has made comparisons of Cretaceous and Eocene species of Vivipara from Alberta with types of species in the Museum for W. S. Dyer of the Geological Survey of Canada.

A paper descriptive of the fossil footprints from the Grand Canyon, mentioned last year as nearing completion, was finished by Mr. Gilmore and printed, as was a description of a small aetosaurian reptile belonging to the Carnegie Museum of Pittsburgh. A third manuscript descriptive of some unusually well-preserved turtles from the Pleistocene of Florida is nearing completion.

Doctor Gidley's research work has been confined mainly to studies on the collections made in the Pleistocene of Florida, with reference especially to their bearing on the subject of early man in Florida. A paper prepared in collaboration with Dr. F. B. Loomis and submitted for publication, concludes that man was present in Florida before the extinction of the mammoth and mastodon. Additional study of the San Pedro Valley, Ariz., collections has practically completed Doctor Gidley's work on this material.

In addition to the above, papers were prepared for the publicity service of the Institution by Doctors Merrill and Bassler and Mr. Gilmore.

Research of outside investigators aided by Museum material.—While the collections in all divisions have been accessible and used by students, and materials have been transmitted to a number of workers both in this country and abroad, extended research work by outsiders has been confined to the paleontological divisions. Members of the Geological Survey staff, with office accommodations in the department, are at all times actively engaged in studying the collections. L. W. Stephenson has continued work on the Cretaceous faunas of the Coastal Plain, especially those from Texas and Arkansas. John B. Reeside, jr., in continuation of his studies of the Eagle sandstone and related formations in the western interior region, completed and submitted for publication a paper on the cephalopods of this fauna. He has also offered for publication three additional papers, all based on materials in the Mesozoic collections. W. P. Woodring, working on the Tertiary collections, has continued his investigations on Miocene mollusks from Bowden, Jamaica; has prepared an account of the American Tertiary mollusks of the genera Clementia and Egesta, and has arranged the collection of types and topotypes of Tertiary mollusks from tropical America.

Ira Edwards, curator of geology, and Mr. Gilbert Raasch, assistant curator, of the Milwaukee Public Museum, spent several months in researches on the collection of Cambrian brachiopods of Wisconsin and the Cambrian Meristome crustaceans. In the course of this work, our extensive collections of these two groups were carefully studied, identified, and described for publication by the Milwaukee Museum. Dr. S. A. Barrett, director of that institution, spent a few days here during the course of these researches.

Dr. A. F. Foerste, of Dayton, Ohio, continued his monographic studies of our Paleozoic cephalopods during the summer of 1925 but, due to severe illness, did not make as much progress as hoped. He returned in June, 1926, to continue this work.

R. W. Chaney, of the Carnegie Institution of Washington, has made use of the fossil plant collections in continuation of his studies of the Tertiary flora of the Pacific coast, especially those from the John Day Basin, Oreg. George S. Buchanan, paleontologist of the Carter Oil Co., Tulsa, Okla., spent several days in an examination of our Carboniferous ostracods; Dr. J. A. Cushman has continued to use our fossil foraminifera; and students from various universities have utilized the paleontological collections.

George H. Hansen, graduate student at George Washington University, has served as voluntary assistant during a considerable part of the year and worked upon the identification of certain Paleozoic and Mesozoic faunas.

Remington Kellogg, of the Biological Survey, has continued his studies of the fossil cetacean materials, and Dr. O. P. Hay his researches on Pleistocene vertebrates. The work of these two collaborators has added much to the value of the collections, not only by their descriptions of the specimens but in the acquisition of much material which otherwise would have been lost to us.

Dr. G. G. Simpson, of Yale University, spent several days working on our Jurassic mammal material in connection with a monographic work based on this and similar material in the Peabody Museum at Yale, these two collections comprising about all that is known of a very rare and primitive mammalian fauna.

Assistance to other Government bureaus or private individuals.—Materials have been loaned to other branches of the Government, particularly in connection with their exhibits at the Sesquicentennial Exposition. The National Geographic Society and the National Park Service have also been accommodated in this way. No record is kept in this office of the number of callers to whom information has been furnished or of the letters written by members of the staff. Within the year 440 letters have passed through the head curator's office, and 415 lots of material have been received for examination and report.

Visits to other institutions.—Messrs. George P. Merrill, R. S. Bassler, C. W. Gilmore, W. F. Foshag, C. E. Resser, and J. W. Gidley attended the annual meetings of the Geological Society of America and Paleontological Society at New Haven, and were present at the dedicatory exercises in connection with the opening of the new Peabody Museum at Yale University. In addition, Doctor Merrill was present at the meetings of the National Academy of

Sciences and the American Philosophical Society, delivering a paper at the last named.

Dr. R. S. Bassler spent a few days at Rochester, N. Y., on official detail for the purpose of studying the large collections at Ward's Natural Science Establishment, and to select a series of exhibition specimens of fossils. An excellent set of fossil echinoderms was obtained and arrangements made for some very important exchanges. Doctor Bassler, while on detail in Philadelphia in connection with the installation of the Sesquicentennial exhibit, visited Dr. Frank Springer and planned with him future work on his collection of fossil echinoderms. A paper dealing with some special phases of evolution in micro-organisms was delivered by Doctor Bassler before the National Academy of Sciences, by special invitation.

DISTRIBUTION AND EXCHANGE OF SPECIMENS

The records show the distributions for the year to be as follows: As gifts, chiefly to educational institutions, 1,007 specimens were transmitted; as loans for study or other purposes, 2,171 specimens; in exchange, 5,881 specimens; and as transfers to other branches of the Government, 2 specimens.

NUMBER OF SPECIMENS UNDER DEPARTMENT

The number of specimens under the department is shown in the tabulated statement below. It should be stated, however, that the figures here given are merely estimates and do not include duplicates or specimens on deposit.

Division	Number of specimens
Geology	91, 960
Mineralogy and petrology:	
Minerals	40, 504
Gems	4, 500
Rocks	60, 119
Stratigraphic paleontology:	
Invertebrate fossils	1, 443, 214
Fossil plants	49, 765
Vertebrate paleontology	23, 612
Total	1, 713, 674

These figures are hardly a fair estimate of the actual number of specimens in the collection, since, as in the case of the smaller fossils, a recorded specimen may refer to a vial, box, or slab containing a thousand individuals. A statement as to the number of standard drawers, 24 by 29 by 3 inches, in actual use in the division of strati-

graphic paleontology may give a fairer impression as to the richness of the collections. More than 21,000 such drawers are now in use to contain the invertebrate fossils and 7,500 the fossil plants. Of the Paleozoic, including the Cambrian, there are about 14,000 drawers, the Cambrian collections alone filling 3,000, not including the material still in the Smithsonian Building. The Cenozoic and Mesozoic collections each occupy over 3,600 drawers. The extent of the biologic series is indicated by the fact that the collection of fossil echinoderms occupies 1,200 standard drawers, and the other great groups of animals are present in equally large numbers.

DEPARTMENT OF ARTS AND INDUSTRIES, AND DIVISION OF HISTORY

By WILLIAM DEC. RAVENEL, *Director of Arts and Industries*

INTRODUCTION

The department of arts and industries and the division of history comprise collections of widely varying classes of materials requiring equally diversified treatment. The department comprises the divisions of mineral and mechanical technology, under Carl W. Mitman, curator, with three scientific and one clerical assistant; the divisions of textiles and of medicine and the sections of wood technology, of organic chemistry, and of foods, under Frederick L. Lewton, curator of textiles, with four scientific and two other assistants; the division of graphic arts and the section of photography, under Ruel P. Tolman, assistant curator, with two scientific assistants; and the Loeb collection of chemical types, under Maj. O. E. Roberts, jr., curator, with a clerk. The division of history is under T. T. Belote, curator, with two scientific and three other assistants.

All material received by the Museum must be made available by classifying and cataloguing, and when so worked up furnishes the basis for popular exhibits as well as the reference series. The planning, preparation, and installation of exhibits arranged for the general public are of first importance. In addition, however, the staff must give time and effort to caring for valuable reserve material in the interest of the technical student and the historian. The constant demand for technical information of every kind indicates the need and value of work on the study or reserve collections. Conditions, however, to a great extent regulate the duties which must receive first attention each year. Though specific plans of development are outlined, circumstances often make it imperative to direct the efforts of the staff along other lines entirely. Since the increase in the Museum collections is largely through gifts by persons or organizations who have become interested in the work, rather than by systematic collection or purchase along definite lines, the time of the curator and his assistants must first be given to making the new material available to the public as soon as possible.

The primary purpose of the divisions of mineral and mechanical technology is to build up a visual record of industrial progress, and the efforts of the staff in this direction are constantly becoming better and more widely known. As mentioned in the annual report

for 1925, the crowded condition of both exhibition and storage space of these divisions is such that much valuable material has to be refused or accepted only in the form of photographs.. With limited exhibition space, limits must be set on acceptances each year so that in the event of an offer of extreme value the Museum may be in a position to accept it. There are many directions along which the divisions might develop in the construction of exhibition material that it has not seemed practicable to follow now simply because of space which such exhibits might take from valuable historical objects which may be received.

With the collections under the supervision of the curator of textiles attempt is being made to bring before the people of the United States the vast resources of our country in vegetable and animal raw materials, and the manner these materials are used by great industries to benefit our people. These collections, comprising, as they do, food, textiles, wood technology, organic chemistry, and medicine, are concerned with subjects of greatest importance to all, namely, food, clothing, shelter, and health. In textiles the emphasis during the year has been upon a replacement of popular exhibits with new and fresh material, particularly in cotton manufacture. In wood technology, more time was devoted to the examination and identification of the specimens in the reference collection. In organic chemistry, a beginning has been made in preparing exhibits to show the wealth of industrial raw materials, dyes, solvents, and chemicals now furnished by the synthetic organic chemical industries. In medicine, chief attention has been centered in developing the hall of health and the presentation of popular health exhibits. The planning and creation of exhibits and models to interest the public in preservation of health require ingenuity and resourcefulness.

The division of graphic arts endeavors to illustrate technically all the processes of graphic arts, including hand as well as printing processes. The methods and results of printing and binding and artistic reproduction by various processes occupy the main hall and adjoining rooms on the first floor of the Smithsonian Building, while the history of photography, by methods, apparatus, and prints from the earliest period to the latest developments of motion pictures, is displayed in the gallery of the northwest court of the Arts and Industries Building. To those citizens who may not find time to visit Washington the division of graphic arts takes its message of cultural advancement through the wide circulation of specially prepared traveling exhibits.

The Loeb collection of chemical types, maintained through the munificence of the late Dr. Morris Loeb, has as its general purpose the collection and preservation of samples of original substances of

interest to those conducting chemical research, and the advancement of chemical research by providing workers with such small samples of chemicals from the collection as may be spared. The work is conducted under an advisory committee on the Loeb collection, the chairman ex officio this year being Dr. William J. Hale, by virtue of his position as chairman of the division of chemistry and chemical technology of the National Research Council. On September 30, 1925, Dr. Campbell E. Waters was appointed to represent the Bureau of Standards on the committee in place of Dr. W. F. Hillebrand, deceased.

The division of history supplies collections of the widest and most popular appeal. Here are shown antiquarian, military, naval, pictorial, and costume materials connected with periods, events, and personages of the civil, military, naval, and diplomatic history of our country, and vast collections of coins, medals, and postage stamps which are cosmopolitan in their representation. The historical collections are constantly increasing in size, and, while growth has been comparatively slow in recent years, the additions during that period have been in most cases of exceptional scientific and intrinsic value.

The progress made this year in the department of arts and industries and the division of history is wholly due to the splendid support and cooperation of the various members of the staff, notwithstanding many handicaps, and great credit is due them for upholding and carrying forward the high ideals and purposes of the National Museum under all circumstances.

ACCESSIONS FOR THE YEAR

The department of arts and industries and the division of history acquired 19,926 specimens during the year. While some of the divisions received fewer specimens than in 1925, yet the increased number received by others made an aggregate gain of nearly 3,000 specimens. The assignment was as follows: Mechanical technology, 432; mineral technology, 2; textiles, 346; woods, 137; organic chemistry, 553; foods, 20; medicine, 131; graphic arts, including photography, 884; Loeb collection of chemical types, 165; and history, 17,256. Additional specimens numbering over a thousand were received as loans for the special exhibitions arranged by the division of graphic arts.

Mineral and mechanical technology.—Of the 432 objects assigned to mechanical technology, 321 were individual objects presented by the Elgin National Watch Co., which as assembled visualize the story of modern watch manufacture. The exhibit represents the application of a great deal of time and thought and makes a most interesting addition to the horological collections.

Probably the most historically important and popularly interesting accession received is the flag plane *Chicago*, the airplane used by the commander of the airplane flight around the world in 1924. This was transferred to the Museum from the War Department and is exhibited in the Aircraft Building. A very interesting companion piece is the original diary of the airplane flight around the world, kept by Lieut. Leslie Arnold, United States Army, observer in the *Chicago* throughout this historic flight, loaned to the Museum by Lieutenant Arnold.

Two boat models were given for addition to the watercraft collections. One is a reproduction of a Mississippi River steamboat, a replica of the largest boat of this kind made for use on that river, donated by James E. Howard, present owner of the Howard Shipyards, in which the original boat was made. The second was received from W. L. Christian, and is a reproduction of a steam-driven canal boat constructed for use on the Erie Canal for hauling grain. The type, introduced in 1872, was propelled by twin screws and won the State prize of $50,000 for carrying the largest load of grain in the quickest time from Buffalo to New York.

D. McFarlan Moore, of the Edison Lamp Works of the General Electric Co., who has spent a great many years in experimental and research work looking toward the development of cold, artificial electric light, added to his collection in the Museum a number of very interesting objects. Amongst them is the so-called telorama lamp, being part of the equipment used in the first electrical transmission of motion; also a group of seven pieces of apparatus illustrating stages in the development of the cold lamp which Mr. Moore has devised.

The Koehring Co. contributed a working model of a machine called a "concrete paver," a device quite universally used in the mixing and distributing of concrete in making paved roads. It is hoped, with the cooperation of the Portland Cement Association, to utilize this model as the main feature of an exhibit which shall show the modern method of constructing a concrete roadway.

Interesting accessions received for the collection of tools included an early type of carpenter's brace presented by James W. Johnson, and an early type of wood mortising machine presented by Josiah and Morgan A. Swingle, deceased, through Edwin A. Swingle.

W. T. Kelly donated for the section of transportation a very early type of railroad rail used on the first lines of the Louisville & Nashville Railway. This type of rail was imported from England and was rolled into the shape of a pear from a flat piece of wrought iron.

One of the earliest efforts in manufacturing automobiles in the United States was made in Springfield, Mass., by Charles E. and

J. Frank Duryea. The second machine made by them was received by the National Museum in 1921, and forms part of the collection of automobiles showing the development of this art. This year the Springfield Chamber of Commerce presented photostat copies of newspaper accounts of the early work of these two men from the Springfield Evening Union, of September 16, 1893, and the Springfield Morning Union, November 10, 1893.

For a great many years the earliest printed evidence of the Newcomen atmospheric steam engine was that contained in an old woodcut dated 1719. Early in 1926 there came to light in England another woodcut of a Newcomen atmospheric engine, dated 1717, or two years earlier than the earliest known record of the use of this type of engine. A copy of the original woodcut, now in the Science Museum, South Kensington, London, was presented to the National Museum by the Newcomen Society, London, through the honorary secretary, H. W. Dickinson.

The sulphur industry as carried on in Louisiana and Texas is one of the most unusual of our mineral industries, in that, instead of extracting the ore by customary mining methods, it is procured by drilling holes down to the sulphur deposit and sending water heated to a temperature of over 300° down these wells. The water at this temperature melts the sulphur over a wide area and the molten sulphur is then forced to the surface by the aid of compressed air. To assist in visualizing this unique process, designed by Herman Frasch, the Texas Gulf Sulphur Co. presented a series of three colored transparencies so constructed that the essential stages in the process are indicated in action, supplementing the model of the industry already in the Museum. The visitor, on viewing the transparencies side by side, can see hot water going down a sulphur well and the molten sulphur rising up through the well and flowing into the collection bins, where it solidifies.

The National Aeronautic Association annually awards a trophy known as the Collier trophy, for the outstanding development in aeronautics during the previous calendar year. This trophy was awarded for 1925 to Dr. S. Albert Reed for his development of a high-speed metal airplane propeller. Doctor Reed placed the trophy in the Museum and intends to present one of his all-metal propellers for the aircraft exhibit.

Textiles, organic chemistry, wood technology, food, and medicine.—While the actual number of specimens received by the divisions and sections under the curator of textiles is less than last year, the decrease is more apparent than real, since the accessions include several valuable models comprising a great number of component parts, each of which would be regarded as a separate specimen if they were not fastened together to form one complete unit. Three

of the larger models furnished the Museum this year are valued by the makers at $30,000.

The most important additions to the textile collections were made by firms who had formerly cooperated with the Museum in furnishing educational material. The Pacific Mills, through their agents, Lawrence & Co., contributed 150 fresh specimens of plain, piece-dyed, and printed cotton fabrics to replace similar material which had become out of date. This gift also included a working model of a modern carding machine secured by Edwin Farnham Greene, treasurer, from the Saco-Lowell Shops, Newton Upper Falls, Mass.; a working model of a napper for raising the nap on cotton fabrics; a series of specimens showing the engraving of designs on copper or steel rolls used in printing fabrics; and examples of the dyestuffs used in the five principal types of cotton dyeing. This contribution comprises gray or unbleached standard cloths as they come from the loom with the same fabrics after bleaching and finishing; sheets and pillow cases and fine white goods of many kinds; piece-dyed and printed dress goods in satines, and broadcloths; cotton flannels, both plain and printed; plain, figured, and printed cotton and cotton and rayon drapery fabrics, including a beautiful specimen of a warp-printed cretonne; and examples of various folds and standard put-ups of fabrics for domestic and foreign trade as adopted by the National Association of Finishers of Cotton Fabrics. With these came 41 large transparencies showing all the main processes in cotton manufacture from the picking of the cotton to the printing of the completed cloth.

The Massachusetts Mohair Plush Co. donated nine specimens of mohair plushes used for upholstering furniture and seats in railway coaches. These fabrics are first woven with the pile surface in loops and afterwards run through a shearing machine which cuts the loops, leaving standing the stubblelike pile.

An unusually attractive and interesting series of casement laces, casement nets, and lace curtains was contributed by the Quaker Lace Co. The casement material, or curtain-yard goods, is woven on a machine 45 inches wide, which carries eight breadths at one time. A striking feature of the exhibit is the use of rayon in combination with cotton. The weaves, the greater number of which are filet or square mesh, are produced on a craft-lace curtain loom in a variety of floral and conventional patterns, some showing French and Italian influence.

The North American Lace Co. cooperated with the Museum by a gift of 23 specimens of cotton and rayon machine-made dress laces. While the entire series of bandings, flouncings, and allovers contributed are manufactured on a Levers lace loom, they are nearly all

reproductions, in almost perfect imitation, of handmade Valenciennes, Alençon, Duchesse, Carrickmacross, and others. A number of novelty effects are developed by combining different kinds of laces in a single edging or banding. Others which are not exact copies of any particular kind have conventional and floral patterns with the exception of two flouncings—one of French design and the second of Russian origin.

Owing to the great increase in the price of automobile tires during the year, the gift by the Beningham Machine Corporation of three original tire-fabric machines attracted much attention. The first is a loom for weaving a curved cord fabric already shaped to the form or core upon which the tire is built. The second constructs a three-ply rubberized fabric ready for the tire builder, while the third delivers a continuous bias strip of rubber-coated cord fabric for shaping into a tire in the usual manner. It is believed that these inventions have possibility in simplifying and cheapening the construction of automobile tires.

Four exhibits illustrating synthetic organic chemical industries were received during the year. These represent the manufacture of methyl alcohol or methanol from acetylene produced from calcium carbide, presented by the Mellon Institute; the production of furfural from oat hulls and examples of its application, from the Miner Laboratories; the synthesis of maleic acid from benzene, and specimens of mallates from Weiss and Downs; and a large wall chart showing the derivatives and applications of butanol, an important industrial chemical produced from waste cellulose matter, such as sawdust, contributed by the Commercial Solvents Corporation.

The Ford Motor Co. loaned a model of a wood distillation plant for the production of methyl alcohol, acetate of lime, and wood charcoal by the old process of dry distillation of hardwood. This plant uses sawdust, obtained as a by-product of the woodworking factories of the Ford Motor Co., as its chief raw material. Accompanying the model plant are specimens of the main products of the distillation of wood, and specimens of the subsequent treatment of the crude products, namely, charcoal and briquets, tars and oils, pyroligneous acid, acetate of lime, crude and refined methanol, allyl alcohol, methyl acetone, and ethyl acetate. Another model loaned by the Ford Motor Co. is that of a section of a portion of a battery of 60 by-product coke ovens and specimens of the products and by-products obtained, such as coke, coal tar, ammonium sulphate, crude naphthalene, crude and refined light oil, and motor benzol.

An addition to the exhibits of the plastic industries was the contribution by the Karolith Corporation of 262 specimens of casein plastics in the form of rods and sheets and articles made therefrom.

The basic process for the manufacture of this interesting all-American material was worked out by American chemists at the Mellon Institute, Pittsburgh, Pa. It can be carved, machined, and inlaid, and unlike other plastics may be colored in all the brilliant shades conveyed by the coal-tar dyes.

The additions made by the Rubber Association of America (Inc.) to the valuable series contributed by it last year were specimens of rubber gloves, tubing, and finger cots used for industrial, household, and surgical purposes; also specimens of sprayed rubber, a new commercial form of raw rubber prepared under the Hopkinson patents, whereby the latex, or "rubber milk," is dried by being thrown out in the form of a fine spray from the top of a tower into heated air, the dry coagulum forming a spongy elastic mass looking like a fall of snow. When pressed into blocks this forms a fine quality of raw rubber containing all valuable ingredients unaltered by chemical or mechanical treatment or darkened by smoke. The manufacture of a golf ball was illustrated by specimens in 10 stages, from the heart of hard rubber covered by a soft rubber shell, through many layers of finest rubber thread wound under tension by a specially designed machine, to the gutta-percha cover, which is trimmed, stamped, and painted with white rubber paint.

The old collection of gut strings was replaced by an entirely new exhibit, contributed by Armour & Co., showing stages in the manufacture of strings from crude sheep intestines for all kinds of musical instruments, for stringing tennis rackets and beads, and for surgical ligatures. At the suggestion of Armour & Co. there were contributed for this exhibit, by the Jackson Guldan Violin Co., a violin properly fitted with gut strings, and by F. J. Bancroft Co. two high-grade tennis rackets strung with colored and uncolored gut strings.

The most valuable addition to the food exhibits was a large model of a milk condensary, the gift of the Borden Sales Co. (Inc.). This model, designed and constructed by Royal Rook, is 24 feet long by 30 inches deep, with a painted background representing an autumn view in western New York. The model shows the production of milk on a modern dairy farm, with cattle, pastures, barns, farmhouse, and kitchen garden, the assembling and transportation of the milk from the farm to the condensary, and the various operations of the latter to the packing and loading of the condensed or evaporated product in freight cars for shipment.

The American Protein Corporation contributed a series of specimens illustrating the extraction and use of serum albumin and other products from beef blood, a by-product of the meat-packing industry. When it is realized that as much as 3,500 tons of dried-egg albumen is imported from China each year for use in foodstuffs

and in industries and that to meet the demands for our food supply more than 85,000,000 animals are slaughtered yearly in the United States, it seems as though there is an enormous waste of a by-product of potential food value. The albumin has many applications, as it is valued as a mordant in dyeing and printing, for making waterproof glue, as a clarifying agent, and for coating photographic papers. Other products obtained from beef blood included in the exhibit are beef fibrin and haemoglobin, used for finishing leather, as an ingredient in pharmaceuticals, dog biscuits, and other animal foods.

Six large specimen boards free from knots or other defects have been contributed as additions to the exhibition series designed to show the most important commercial woods of the United States. Western yellow pine and western white pine were furnished by the Western Pine Manufacturers' Association, red oak by the Blackwood Lumber Co. (Inc.), eastern hemlock by Holt Lumber Co., and western hemlock by the West Coast Lumbermen's Association.

The Paine Lumber Co. continued their valued cooperation by inclosing their exhibit of veneered doors in two fine African mahogany cases. In addition to altering the installation, the company replaced two doors with ones of much more beautiful pattern of the one-panel "miracle" type, the first showing prima vera on one side and red birch on the other; the second, black walnut on one side and figured red gum on the other.

A very fine series of specimens showing the development of a high-grade violin was made and presented to the Museum by A. F. Moglie. In this he used Tyrolean spruce for the top and the lining of the ribs and Tyrolean curly maple for the back, ribs, neck and scroll, bridge, and the core of the three-ply inlay. The finger board, upper nut, tailpiece, saddle, and pegs are of ebony. Four rosewood pegs have been included because they rank with ebony, and many violinists prefer them. The finished violin is a remarkable piece of work, and the whole series forms an interesting and instructive addition to that part of the collections showing exacting uses of various woods.

A series of 10 specimens showing the manufacture of golf clubs from hickory and persimmon was contributed by the Kroydon Co. The hickory used in the shafts is the finest obtainable, for it must not only be sound wood but must also have certain elasticity that can only be found in a small proportion of all the wood cut for the purpose. Persimmon wood stands alone in suitability for the heads because of its unusual density and toughness and resistance to splitting. Any other wood of equal toughness would be too heavy or too light, so that the finished head would not be of the correct weight.

Wallace & Tiernan Co. (Inc.) contributed a model illustrating the danger of water pollution by subsoil seepage. The company also presented a special exhibit which shows a farmhouse equipped with a modern water-supply system, a septic tank, and a chlorometer suitable for sterilizing the water of a single well. The model and exhibit point out to the individual his responsibility in locating a well, the danger of neglect in this particular, that water should be sterilized to avoid any possibility of water-borne diseases, and that even the most remotely located dwelling can have its own sterilized water supply. The model was made by Miss Elizabeth Gurney, St. Cloud, Minn., and the exhibit by the engineering department of the company from plans furnished by the assistant curator in the division of medicine.

To keep the subject of first aid before the public, two exhibits planned by the division were made by J. H. M. Dudley, Elizabeth, N. J., and contributed to the Museum by Johnson & Johnson (Inc.). One pictures first aid as the bridge which spans the gap between the scene of an accident and expert medical attention. Then follow models illustrating shock, wounds, burns, scalds, and fractures, each being treated by first-aid workers. The second exhibit consists of three models showing the proper application of bandages and treatment of wounds of the upper and lower extremities.

The Toledo Scales Co. presented a free person weigher to be used to tell of the dangers of obesity, what the average weight, depending on age and height, is, and that in many instances weight can be controlled by revision of the manner of living as regards diet and exercise.

A model, which illustrates the "activated sludge" process of disposing of sewage and trade wastes at the $10,000,000 sewage-disposal plant at Milwaukee, Wis., was received by contribution from Auer (Inc.).

Dr. Riley D. Moore, a former member of the Museum staff, was appointed by the American Osteopathic Association to cooperate with the National Museum in improving the osteopathic exhibit. Through his assistance the following material was received by contribution: A fulcrum-block foot adjuster and a model of a pneumatic adjustment table from Dr. G. C. Taplin; a model of a gravitiser from Dr. William West; a Post instrument, and a copy of volume 2 of the Osteopathic Magazine from the American Osteopathic Association; a model of an osteopathic treatment table from Dr. George T. Hayman; seven osteopathic books from the A. T. Still Research Institute; a copy of Millard's "Applied anatomy of the lymphatics," from Dr. F. P. Millard; a copy of the fifth edition of Tasker's "Principles of osteopathy," from Dr. Dain L. Tasker; and

a copy of Swart's "Osteopathic strap technique," from Dr. Joseph Swart.

An exceptionally interesting addition was made to the homeopathy exhibit by the donation from Dr. J. Perry Seward and Dr. Henry B. Minton of a medicine case used by Dr. Samuel C. F. Hahnemann, the founder of the homeopathic school of medicine. Dr. George B. Roth deposited a set of 10 old surgical instruments which belonged to his father.

A replica of the medal awarded to the drivers of the dog teams which carried the diphtheria antitoxin from Nenana to Nome, Alaska, in January–February, 1925, was contributed by the H. K. Mulford Co. The medicine in question was needed at Nome to combat an epidemic then raging, and the medal is to commemorate the devotion to duty, for the conservation of life, of the 18 drivers who transported the antitoxin a distance of 658 miles under most difficult circumstances.

The Museum is indebted to the National Child Welfare Association for a gift of 65 child-welfare panels, and to the American Red Cross, through Miss Irene M. Givenwilson, for 16 specially prepared posters dealing with various phases of child health.

Graphic arts.—Some 884 specimens were added to the permanent collections of the division of graphic arts and the section of photography. As a whole, the accessions have been varied and of much interest and value both historically and technically.

The most important individual specimen obtained was the book entitled "Sculptura," by John Evelyn, published in England in 1662 and containing the first account of the art of mezzotint engraving and a mezzotint, "Head of the Executioner of St. John the Baptist," by Prince Rupert, who for a long time was considered the inventor of the process. This book and print were published just 20 years after the first mezzotint was made by Ludwig von Siegen in 1642. The print is rare and valuable and is the earliest mezzotint owned by the Museum.

J. Frank Wilson supplied 207 specimens, etchings, wood engravings, lithographs, photomechanical reproductions, paintings in water colors, and drawings, part of which were credited as given by him and part by his father, the late Dr. Thomas Wilson. Both father and son were connected with the National Museum for many years. The drawings, which are fine, rare examples of the work of the sixteenth century, were on exhibition in the division in 1888 as a loan, and the Museum is fortunate in having them back permanently.

Another important accession was obtained from Mrs. G. F. C. Smillie, whose husband was long the chief portrait engraver at the Bureau of Engraving and Printing. This gift consisted of 208

specimens, tools, and materials used by Mr. Smillie, and proofs of his engravings, including a series showing the progress as engraving advanced from the first proof to the finished one.

Ernest Kletsch donated 188 small but rare old woodcut blocks and type, with modern impressions from some of them. The oldest probably date from the sixteenth century. Alfred McEwen added to his previous gifts five microengravings by various early workers. The Museum collection of these engravings, which can be read only under high magnification, now contains examples by W. Peters, William Webb, R. J. Farrants, and Alfred McEwen, and covers examples from all but one of the workers in this line.

Over 100 prints were added by gift, more than 50 being the work of the donors, comprising wood-block prints, wood engravings, engravings, mezzotints, etchings, aquatints, soft-ground prints, dry points, and lithographs. Miss Alice R. Huger Smith gave five wood-block prints in color, which have a beauty and distinction all their own. John Taylor Arms added seven etchings and aquatints, three of the latter being printed in color. George T. Plowman contributed 13 prints comprising examples of mezzotint, etching, dry point, soft ground, and lithography. Emil Fuchs gave 10 etchings—portraits, nudes, and landscapes with figures—done in a very individual way. Others were given by Alfred Hutty and H. Lindley Hosford. Fine examples of wood engraving were received from George Meinshausen, Augustus C. Volkman, and James Bann. A set of the Voyage of Life, engraved by James Smillie after paintings by Thomas Cole, was the gift of the Rev. James G. Craighead through his daughter, Miss Alice W. Craighead.

Mrs. Theodore Stanfield loaned a brass hornbook inscribed on the back "St. Pauls A. D. 1729." Hornbooks were very numerous before 1800, but are now exceedingly rare. The two on exhibition in the National Museum are probably the only ones on public view in the United States.

B. M. Comerford presented four very rare books with fore-edge painting, which he had previously lent the Museum, and gave also another valuable book with faint fore-edge painting.

The major part of the growth this year in the section of photography has illustrated the motion-picture art. Through the cooperation of Will Hays, president of the Motion-Picture Producers and Distributors of America (Inc.), available historical machines and material are being assembled in the National Museum. As a result of these activities 57 historical specimens relating to the development of the motion-picture industry were received, as follows: E. H. Amet donated 3 of his early projectors and 11 samples of early film; William Rabkin, president, International Mutoscope Reel Co., sent in as a loan cameras and projectors of much historical interest and value; Mrs. Eberhardt Schneider, whose husband was one of the

early manufacturers, loaned 33 specimens; R. L. Giffan placed in the Museum 2 motion-picture projectors and a light-testing machine, all the invention of Thomas Edison.

The last accession of the year, a kromskop invented by Frederick E. Ives, represents one of the important advances in color photography and was received as a loan from Max Levy, through Howard S. Levy. This apparatus, which gives accurate color rendition, has been sought for several years and fills a gap in the color series.

A. G. McGregor continued his interest in the James W. McDonough color-process series, as evidenced by the gift of a copy of the record of the interference case in the United States Patent Office between McDonough and John Joly in the art of producing colored photographs.

The pictorial photographic series was enhanced by additions from some of the foremost pictorial workers of the world. Floyd Vail added to his valued previous donations a bromide print, entitled "Damp and Cold," a subject which has been exhibited many times and has received high praise. Other notable pictorial prints were presented by the following artists: John McRae, Coatbridge, Scotland, three very beautiful bromoils; Colin J. Unsworth, Manchester, England, three bromides which have his typical charming atmospheric quality; Joseph M. Bing, New York City, a bromoil, "Passage at the Castle," which shows rare technical and pictorial quality; George J. Hughes, Bridge of Allan, Scotland, two very attractive prints entitled "Seventy-five" and "The Kirk"; and Monte Luke, Sydney, Australia, four portraits and two landscapes. A. C. Banfield, London, England, gave five prints to the collection and six layouts of harmonographs made by a photographic process of his invention. By his machine he is able to trace with a stylus of light on a sensitive plate designs similar to geometric lathe work used in engraving.

Another pictorial print, the portrait of Rev. T. M. Monayhan, by Edmund Drummond-Young, Edinburgh, Scotland, which won a prize at the convention of the Photographers Association of the Middle Atlantic States, held in Washington in March, 1926, was donated to the Museum by the association through its president, David B. Edmondston.

Technical material received as a loan from Raymond Davis, Bureau of Standards, showed the deciphering of charred paper records by photographic means. The sheet of charred paper is placed against a sensitive plate for about two weeks and then developed with satisfactory results. The American Telephone and Telegraph Co., which has developed a commercially successful method of sending photographs by wire, donated an exhibit showing the method and the finished results with prints before and after sending.

Algernon S. Schafer gave a Ford's "Tom Thumb" camera, patented about 1890 and manufactured by Max Juruick, Jersey City. The distinctive feature of this camera is the hemispherical shutter.

Loeb collection of chemical types.—This collection has been increased by 165 specimens and its contact has been greatly widened. Written requests for contributions have been made to over 550 new sources of materials, besides many personal requests for assistance made by the curator to chemists attending the convention of the American Chemical Society at Los Angeles in the autumn of 1925, and also to a number who were visited in their laboratories.

History.—During the past fiscal year 92 accessions were added to the division of history, comprising a total of 17,256 specimens, which is considerably more than the total number of specimens received during the previous year.

The antiquarian series was increased by a number of interesting specimens. A court robe of black and crimson silk worn during the latter part of the eighteenth century by John Jay, the first Chief Justice of the United States Supreme Court, was lent by Hon. Peter Augustus Jay, United States Minister to Argentina. An ivory-headed cane, made from a piece of wood taken from the U. S. S. *Constitution* and presented by Commodore J. D. Elliott, United States Navy, to President James Madison, together with two documents establishing the authenticity of the cane, were lent by James C. McGuire. Two small United States flags flown on the locomotive which drew the funeral train of President Abraham Lincoln from Albany to Utica in April, 1865, were presented by Walter S. McCulloch. A gold watch with chain and bloodstone fob bearing the arms of the Clopton family, owned by Judge William Capet Clopton, were presented by Mrs. W. C. Clopton. A silver ladle, a silver dish cross, and 35 silver spoons made during the latter part of the eighteenth century were lent by Alfred B. Horner.

Additions to the military and naval collections were of exceptional interest and value. Most important is the collection of 131 American and foreign military and naval swords of the period 1750 to 1870, formerly lent to the Museum by Dr. Alfred F. Hopkins, of Washington, D. C. In May, 1926, Mrs. Robert R. M. Emmet presented this collection to the Museum with the understanding that it continue to be known as the Alfred F. Hopkins collection. Of special historical interest are the Anglo-American swords of the eighteenth century, many of which were used by officers of the Continental Army during the War of the Revolution. The development of the United States military sword is also well shown by swords used by officers and enlisted men of the United States Army during the early part of the nineteenth century, by a number of

handsome swords used by officers of both the Regular Army and the militia during the War of 1812, by many fine military swords of the transition period between the War of 1812 and the Mexican War, and by a large number of United States Army officers' swords and a fine series of Confederate States swords of the period of the Civil War. The series of United States naval swords in this collection is equally interesting historically, beginning with several fine specimens of officers' swords of the first decade of the nineteenth century and terminating with others of the period of the Civil War.

Other objects relating to the various wars during the period 1845 to 1926 were added to the military series. A Mexican flag captured during the Mexican War was presented by Mrs. Emma B. Pryor, through H. A. Butler. A large and interesting collection of personal relics of Gen. Philip H. Sheridan, United States Army, donated by Mrs. Philip H. Sheridan, included uniforms and other military accessories owned by General Sheridan during the long period of his military service. Mrs. Sheridan also lent a gold watch and chain, a number of gold badges owned by General Sheridan, and several handsome swords presented to him. A large amount of German military material captured during the World War by American Expeditionary Forces was received from the War Department.

A naval relic of unique interest relating to the period of the Civil War received during the past year is the United States flag flown on the U. S. S. *Monitor* during the engagement between that vessel and the Confederate ironclad *Virginia*, better known as the *Merrimac*, at Hampton Roads, Va., March 9, 1862. This flag, together with a series of letters and documents relating to the construction of the *Monitor*, were lent by Chester Griswold, through H. F. J. Porter.

Interesting additions were made to the numismatic collections. Miss Alice Tracy Thayer presented a collection of 42 ancient and 38 modern coins. A collection of 65 modern coins and tokens was received as the bequest of Col. Thomas L. Casey, through Mrs. Thomas L. Casey. A series of 68 French coins, tokens, and paper currency of the period of the World War was presented by Capt. Charles Carey, of the Museum staff, and a collection of 112 Chinese coins was received from Rev. David C. Graham.

The United States Treasury Department contributed an accession of unusual numismatic interest consisting of five engraved steel plates used by the Confederate States Government for printing paper currency and captured by United States troops in 1862. These plates were used for the printing of $5, $10, $20, $50, and $100 Confederate notes.

The philatelic collection was increased by 16,169 specimens, all but two being received through the Post Office Department. The

transfer from the Post Office included a series of 12,314 varieties of precanceled postage stamps comprising the years 1895 to date, a gift to the department from Walter L. Gates. This branch of philately though in its infancy presents a vast field of interest. A catalogue of the precanceled stamps of the United States and Canada, by B. Gordon Bushnell, published in 1920, lists approximately 33,000 varieties, so that the Museum is indeed fortunate in receiving so comprehensive a series for the nucleus of its exhibit.

The Post Office Department also transferred to the Museum specimens of all the new stamps, both regular and commemorative, issued by the 278 governments in the Universal Postal Union. These included commemorative stamps issued by the United States, Argentina, Belgium, Belgian East Africa, Denmark, Egypt, France, Germany, Italy, Italian Colonies, Japan, Latvia, New Zealand, Norway, Peru, Portugal, Portugese Colonies, Salvador, Union of Socialistic Soviet Republics (Russia), and Uruguay. The United States issues of this character commemorated (1) the centenary of the arrival of the Norwegians in Minnesota (Norse-American), (2) the sesquicentennial of the signing of the Declaration of Independence, and (3) the erection of a memorial to John Ericsson, inventor and builder of the *Monitor*.

The gifts to the philatelic collection mark widely separated periods in the history of philately. Mrs. Radford Moses donated a letter addressed to Dr. Henry King from Berlin, Prussia, bearing New York and St. Louis postmarks of 1843. Jules Held gave an envelope forwarded from Detroit to Cleveland on the occasion of the first flight made in connection with the contract air-mail service of the United States, February 15, 1926.

INSTALLATION AND PRESERVATION OF COLLECTIONS

In the divisions of mineral and mechanical technology, in the land transportation section, the exhibits were divided into two groups—transportation of passengers and transportation of materials. All of the general objects having to do with railroads were assembled in the southeast corner of the east hall and arranged to show the development of the track, the car, the locomotive, and various essential accessories. The original specimens of automobiles were assembled in a line in chronological order. In the section of electricity the objects were divided to show their sources, control, and uses.

On the occasion of the visit to Washington of the Crown Prince and Princess of Sweden to unveil the statue of John Ericsson in Potomac Park on May 29, 1926, the division of mechanical technology, in cooperation with the division of history, prepared a spe-

cial exhibit illustrating the life and works of John Ericsson. The exhibit, which was displayed in four exhibition cases in the west hall, contained many original letters and other memorabilia as well as many models of interesting mechanical contrivances invented by Ericsson, including such things as hot-air engines, steam engines, ordnance, and steamship propellers.

The listing, arranging, and storing of patent models received for preservation in the division of mechanical technology as the result of the work of the commission appointed by Congress to dispose of the large accumulation of Patent Office models, have consumed much valuable time of the preparators and the aid.

In the textile halls eighteen installations of new exhibit material or rearrangements of exhibits already on view were made during the year, the principal changes being in the cotton section, where plain, piece-dyed, and printed fabrics were entirely replaced with fresh material.

Forty installations of new material and rearrangements of old exhibits were made in the sections of organic chemistry and of food during this year, the rubber exhibit receiving most of the attention. All of the cases of this exhibit were rearranged and many entirely relabeled.

Thirty-eight installations were made in the wood court, of which 24 were of new material, 11 were specimens on exhibition requiring rearrangement, and 2 were exhibits that had formerly been retired in favor of something else and had to await the refinishing of cases. One of the most important of these was a special exhibit arranged primarily for American Forest Week—April 18 to 24, 1926. The keynotes for its observance this year were "Grow timber" and "Prevent forest fires," so that illustrations of tree planting and a realistic animated model of a forest fire were made features of the special exhibit.

In the medicine gallery and hall of health 40 new or rearranged installations were made, including the mounting of the 65 child-health panels above the cases in the hall of health. One-half of this hall was wired to provide power for operating mechanical devices and for properly illuminating exhibits. The hygiene and sanitation exhibits were rearranged to conform more closely to the plan drawn up when the work was undertaken.

The collections under the care of the curator of textiles were carefully inspected for deterioration; perishable material like wools and foodstuffs fumigated, and the preserving fluid on fresh anatomical specimens changed as usual during the year. Some 365 wood specimens were made ready for distribution, and a study collection of planed pieces, 3 by 4 by ¼ inches in dimension, was prepared, representing every species in the wood collection. This latter has rendered

much easier investigations on the identification and relationships of tropical woods.

Little rearrangement of the permanent collections was undertaken in the division of graphic arts this year. Four new traveling exhibits were prepared and put in circulation, and much time was given to arranging and caring for the special exhibitions brought to the Museum as loans. These included this year nine special exhibits of prints displayed in the Smithsonian Building and five exhibits of pictorial photographs shown in the Arts and Industries Building, as follows:

In Smithsonian Building.—October 3 to November 3, 1925: Etchings and dry points by George E. Resler and H. Lindley Hosford of St. Paul, Minn. November 3 to December 1: Aquatints in color by Georges Plasse and other French artists. December 2, 1925, to January 1, 1926: Etchings, dry points, block prints, and lithographs—traveling exhibit of the Print Makers Society of California. January 2 to 29: Etchings by Ernest D. Roth of New York City. January 30 to February 26: Etchings by Miss Katharine Merrill of New York City. February 27 to March 26: Etchings by John W. Winkler of San Francisco. March 27 to April 23: Etchings by Arthur W. Heintzelman of New York City. April 24 to May 21: Etchings, dry points, and lithographs by George T. Plowman of Cambridge, Mass. June 12 to July 15: Water colors and acquatints by Capt. W. Francis Longstaff.

In Arts and Industries Building.—September 15 to November 15, 1925: Pictorial photographs by the Wales and Monmouthshire Photographic Federation of Cardiff, Wales. December, 1925, and January, 1926: Bromoils and bromoil transfers by Dr. Emil Mayer of Vienna, Austria. February 1 to March 15: Portrait and landscape photography in bromide and bromoil by A. C. Banfield of London, England. April: Pictorial photographs by the members of the Camera Club of New York. May and June: Pictorial photographs from the Cleveland Photographic Society of Cleveland, Ohio.

In the division of history the numismatic collections were reinstalled so that the numismatic hall by the present arrangement of cases is divided into four alcoves. The first contains coins of North, Central, and South America and the West Indies; the second contains ancient, medieval, and modern coins of Europe; the third is devoted to an exhibit of United States medals, and the fourth to an exhibit of European medals. The interior of the large circular case in the center of the hall is installed with electrotype copies of ancient coins and the exterior with modern European coins.

The facilities of the division of history were improved by the assignment to the division of additional space on the second floor of the northeast pavilion, Arts and Industries Building, where three large rooms are now available for laboratory and storage purposes.

Present condition of the collections.—The status of the collections of mineral and mechanical technology is better now than at any time in the past, both as to physical condition and arrangement.

The collections under the curator of textiles are presented in a more attractive manner than heretofore. The materials in all

the divisions and sections under his charge are fresher, with less deterioration, and more up to date. Many industrial contributors now cooperate to keep the exhibit in their individual line supplied with samples of new material as fast as it comes upon the market. These collections are increasingly useful to the Patent Office, industrial concerns, and others as sources of reference.

Gaps in the technical series in the division of graphic arts are slowly being filled. This is necessarily the case, since the Museum is almost entirely dependent upon the generosity of its friends for the acquisition of specimens, and each object has an intrinsic value. Of the section of photography, Floyd Vail, writing in a recent trade journal, says:

> All photographers, especially those interested on the pictorial side, should not fail to go to the Smithsonian Institution when visiting Washington and view the permanent collection. It is a credit to our Government, and one of which all her citizens should be proud. Embracing prints from the earliest days of photography, the work of the first and foremost workers down through all the years and of to-day, this collection is worthy of careful study, attention, and pride of all Americans, as nothing like it in extent or excellence is available anywhere else in the world.

That the Loeb collection now represents a wide field of research activities may be judged from the fact that the substances in the collection represent the work of or contributions from 228 individuals or sources. In this list of preparators and donors are included the following universities and colleges: Barnard, Columbia, Cornell, Dartmouth, Earlham, Harvard, Hawaii, Illinois, Fordham, Kentucky, Michigan, Minnesota, Nebraska, North Carolina, Notre Dame, Northwestern, Pennsylvania, Pittsburgh, Princeton, Stanford, Teacher's, Tufts, Washington, West Virginia, Wisconsin, and Yale.

The intrinsic, scientific, and patriotic value of the collections in the division of history is unsurpassed by any similar collection in the United States. The present exhibition and storage accommodations of these priceless collections, however, are inadequate, preventing the greatest possible use of the materials and detracting from efficient administration. It is hoped that some measure of relief may soon be found.

The National Museum possesses, in its department of arts and industries and its division of history, vast collections of great potential industrial and patriotic value to the Nation. Mere possession, however, is of little avail. It is the use made of the collections which determines their worth, and every effort is being put forth by the small force available to make these collections more readily accessible and correspondingly more useful to the public.

INVESTIGATION AND RESEARCH

Research by members of the staff.—Pure research and experimentation can not be said to constitute an activity of the divisions of

mineral and mechanical technology, the members of the staff being concerned primarily in visual education of industrial progress. As intimated in previous reports, however, the presentation of correct information on industrial developments, whether by actual objects or publications, requires a considerable amount of preliminary study and research for the determination of truth and accuracy of detail. Typical of this kind of work are investigations made as to the details of the Conestoga wagon, an important vehicle of the early nineteenth century; the airplane devised by Sir Hiram Maxim; and early types of steam engines.

In the division of textiles, a systematic study of the New World species of *Gossypium* and other genera related to the cotton plant, begun sometime ago by the curator, Frederick L. Lewton, was continued during the year, but was not completed for the lack of greenhouse facilities and opportunity for field work. Research concerning the oldest cotton carding and spinning machinery in the United States developed a number of unknown facts and has resulted in the preparation of an article for a forthcoming annual report of the Smithsonian Institution. As routine work permitted, the preparation of comprehensive technical definitions of textile fabrics based upon authentic specimens in the collections and the examination of available current textile literature was continued.

In the section of wood technology, the assistant curator spent much time on microscopic examinations and analyses of several groups of foreign commercial woods, particularly those sold under the name mahogany. Cross, tangential, and radial sections of each specimen were made and checked against such descriptions of known woods as have been published. A set of 49 specimens of woods collected in Surinam in 1916 was similarly studied.

A study of American medicial history was continued by the assistant curator, division of medicine, Dr. Charles Whitebread, and work done on a paper descriptive of the early medical practices of the pioneers of this country.

In the division of graphic arts investigations carried on by the assistant curator, Ruel P. Tolman, resulted in the publication of two articles regarding plumbeotypes and human hair as a pigment. R. C. Smith, aid, continued study and publication on wood engravers and other subjects.

In the division of history, the curator, T. T. Belote, continued, with many interruptions, work on a monograph of the collection of American and foreign swords. The assistant curator, Capt. Charles Carey, devoted much time to the preparation of manuscript for a printed catalogue of the firearms in the care of the division.

Research of outside investigators aided by Museum material.—The divisions of mineral and mechanical technology assisted out-

siders with investigations in innumerable subjects, from the manufacture of pins to the construction of models of early locomotives. While this type of assistance does not involve to any great extent the use of museum materials it draws on the individual experience and knowledge of the staff.

In the section of wood technology, Dr. Samuel J. Record, professor of forest products at Yale University, was assisted in his investigations of tropical woods by study samples of 30 species of woods collected in the Dominican Republic which were sent as an exchange to the Yale School of Forestry. Miss Eliza F. W. Taft, of Wellesley, Mass., an expert textile designer, studied the collection of hand-woven textiles in the Museum and made drafts of the more interesting specimens in the exhibition series. Her investigations developed many interesting examples of the evolution of one design from another.

Representatives of the United States Department of Agriculture and other persons made use of the materia medica collection for the identification of crude drugs, while members of the United States Pharmacopœial Convention frequently consulted the historical documents relating to the United States Pharmacopœia which are exhibited in the Museum. Investigators in the hygienic laboratory of the United States Public Health Service were also assisted by printed information.

Samples of two substances in the Loeb collection of chemical types were donated to research workers, with the approval of the advisory committee, to assist investigations, as follows: Gray tin, to Julius A. Nieuwland, University of Notre Dame, Notre Dame, Ind.; and indirubin, to William D. Appel, United States Bureau of Standards, Washington, D. C. In a number of other instances the curator of the Loeb collection, Maj. O. E. Roberts, jr., was able to assist research workers in locating commercial sources of substances which were not readily available. The work of the collection, it is felt, is now generally appreciated and recognized by chemists throughout the country.

The collections of the division of history were utilized by a number of outside investigators, among them Maj. Calvin H. Goddard, Bureau of Forensic Ballistics, New York City, and Dr. S. A. Barrett, director of the Milwaukee Public Museum. Each of these gentlemen spent several days in the Museum studying the firearms collection.

Assistance of members of the staff to other Government bureaus and private individuals.—From September, 1925, to June, 1926, Mr. Mitman and Mr. Lewton represented the Secretary of the Smithsonian Institution on the commission appointed according to act of Congress to examine and dispose of the large number of Patent

Office models which had been in storage since 1908. Approximately 155,000 models, covering the period from about 1824 to 1895, were examined and several thousand of historical and educational value were retained for the Museum. After the models which had been claimed by the original inventors or their legal heirs had been set aside for return to them, several hundred more were selected for deposit in various educational institutions in compliance with numerous requests which had been made to the National Museum and the Patent Office. The remaining models were turned over to the General Supply Committee of the Treasury Department for sale or condemnation, according to the regulations.

The Museum also assisted the Federal Trade Commission through William N. Watkins, assistant curator, section of wood technology, who was subpœnaed by the commission to give testimony at a hearing on the question of the use of the term "Philippine mahogany," by the Indiana Quartered Oak Co. The labeling of the wood specimens in the Museum played an important part in the decision.

The United States Patent Office made frequent reference to the collections and to the technical books in the office of the curator of textiles for data in passing on the claims of inventors. Numerous visitors in search of special information suggested by the exhibits made particular use of the technical books on textiles, woods, and drugs in the sectional libraries. The curator and assistant curators furnished special information on industrial raw materials and the identification of specimens to several bureaus of the Department of Agriculture. The identification of specimens of fibers and fabrics, gums, resins, seeds, and woods for individuals both in and out of the Government service continued to be a part of the regular work. Mr. Lewton, as heretofore, furnished the identification of cottons and cottonseeds introduced by the Office of Foreign Seed and Plant Introduction and Distribution, United States Department of Agriculture, and to him were referred letters requesting information on silk and artificial silk received by various Federal departments. Six lots of material were received for identification and report.

R. P. Tolman, curator of graphic arts, gave assistance at the United States Capitol in various matters relating to the preservation of paintings and data about artists, and to the State Department in connection with the installation of its exhibit for the Sesquicentennial. The Washington Loan Exhibition Committee of the National Gallery of Art was aided in many ways, particularly as to location, identification, and other information regarding American miniatures. Miniatures were also identified for private individuals.

The division of history in a number of instances rendered assistance to the Department of Agriculture in the preparation of the depart-

ment's historical films, and to private individuals seeking historical data. Some 36 lots of material were received for examination and report by the division.

DISTRIBUTION AND EXCHANGE OF SPECIMENS

Distributions from the department of arts and industries and the division of history aggregated 5,167 specimens, as follows: Gifts in aid of education, 89; exchanges, 30; loans for special exhibitions elsewhere and for research or study purposes, 4,948; transferred to other Government establishments, 6; returned to owners, 93; and returned to donor, 1.

The gifts included 38 old Patent Office models, 40 specimens of wood, 5 samples of foreign fibers, 3 specimens of cotton and cotton-seeds, 2 samples of chemical substances from the Loeb collection of chemical types, and 1 antiquarian specimen. The exchanges for which other material has been or will be received comprised samples of wood. The loans were chiefly for exhibition rather than for study purposes and included some 4,100 specimens representing the 55 displays throughout the country of the special traveling exhibits illustrating graphic-art processes; 71 pictorial photographs exhibited in New York City; 136 portraits of noted Americans and 6 boat models now on exhibition in Atlantic City; 309 die proofs of United States postage stamps exhibited in the Washington Public Library; besides a number of boat models, prints, and other specimens withdrawn for exhibition by other Government establishments at Philadelphia. Other loans more strictly for study or research work included wood, textile, and graphic-art specimens. The returned-to-owner specimens were historical objects which had been in the Museum for some time as loans and were withdrawn during the year by their owners or duly qualified representatives.

NUMBER OF SPECIMENS UNDER DEPARTMENT

The total number of specimens in the department of arts and industries and the division of history on June 30, 1926, was 434,212, assigned as follows:

Mineral technology	4,050
Mechanical technology	7,651
Textiles	11,745
Wood technology	4,830
Organic chemistry	16,471
Foods	1,086
Medicines	13,100
Graphic arts, including photography	25,393
Loeb collection of chemical types	815
History	349,071
Total	434,212

ment's historical films, and to private individuals seeking historical data. Some 30 lots of material were received for examination and report by the division.

DISTRIBUTIONS AND EXCHANGES OF SPECIMENS

Distributions from the department of arts and industries and the division of history aggregated 5,167 specimens, as follows: Gifts in aid of education, 37; exchanges, 30; loans for special exhibitions elsewhere and for research or study purposes, 1,918; transferred to other Government establishments, 6; returned to owners, 93; and returned to donor, 1.

The gifts included 28 old Patent Office models, 10 specimens of wood, 3 samples of foreign fibers, 3 specimens of cotton and cotton seeds, 2 samples of chemical substances from the Loeb collection of chemical types, and 1 antimarian specimen. The exchanges for which other material has been or will be received comprised samples of wood. The loans were chiefly for exhibition rather than for study purposes and included some 4,100 specimens representing the 55 displays throughout the country of the special traveling exhibits illustrating graphic-art processes; 71 pictorial photographs exhibited in New York City; 146 portraits of noted Americans and 6 boat models now on exhibition in Atlantic City; 309 die proofs of United States postage stamps exhibited in the Washington Public Library; besides a number of boat models, prints, and other specimens withdrawn for exhibition by other Government establishments at Philadelphia. Other loans more strictly for study or research work included wood, textile, and graphic-art specimens. The returned-to-owner specimens were historical objects which had been in the Museum for some time as loans and were withdrawn during the year by their owners or duly qualified representatives.

NUMBER OF SPECIMENS USED DURING YEAR

The total number of specimens in the department of arts and industries and the division of history on June 30, 1928, was 1,212,813, assigned as follows:

Mineral technology	4,050
Mechanical technology	7,421
Textiles	215,000
Wood technology	4,530
Organic chemistry	10,471
Foods	1,050
Medicine	12,100
Graphic arts, including photography	23,393
Loeb collection of chemical types	813
History	889,071
Total	1,212,813

LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1925–26

(EXCEPT WHEN OTHERWISE INDICATED, THE SPECIMENS WERE PRESENTED OR WERE TRANSFERRED BY BUREAUS OF THE GOVERNMENT IN ACCORDANCE WITH LAW)

ABBOT, Dr. C. G., Smithsonian Institution: 4 specimens of land shells from Mount Brukkaros, Southwest Africa (91765).

ABBOTT, Dr. WILLIAM L., Northeast, Md.: 493 bird skins from western Siam and from Siberut and Sipora Islands, in the Mentawei group, west Sumatra (87965); 165 ethnological specimens from the same islands (91771).

ABRAMS, Prof. LE ROY, Stanford University, California: Plant from California (91382).

ABREU, M. ELIAS SANTOS, Santa Cruz de la Palma, Canary Islands (through Dr. David Fairchild, U. S. Department of Agriculture): 64 plants from the Canary Islands (90599).

ACADEMY OF NATURAL SCIENCES, Philadelphia, Pa.: 17 mineral specimens from Chile and Bolivia (89605, exchange); 10 minerals from Greenland (89759); 2 plants (91845, exchange); (through Morgan Hebard) 12 katydids (92316).

ACHESON, CARLYLE, Key West, Fla.: Young spiny lobster from Key West (88403).

ADKINS, W. S. (See under Cia Mexicana Holandesa la Corona.)

AGRICULTURE, DEPARTMENT OF:

Bureau of Agricultural Economics: 12 specimens of mollusks (88475).

Bureau of Animal Industry: 14 worms collected in Alaska (89996).

Bureau of Biological Survey: 2894 birds skins from Argentina and Porto Rico, (87927); approximately 25 specimens of mollusks from the State of Washington and 4 centipeds (88014); 62 plants, 2 skeletons, 2 nests, and 12 eggs of birds, all from Florida (88032, 88039); 55 skeletons of birds (89680, 89915, 92151, 92300); 11 specimens representing types of 11 undescribed species of bees (88124); 9 shotguns (88143); specimen of starling from Virginia (88604); 2 specimens of cacti collected in Arizona by E. A. Goldman; also 2 lots of mollusks (88718); skin of a plover from Argentina (88771); 6 specimens of lice from muskrats from Louisiana; also 2 sets (10 specimens) of bird eggs from Louisiana (88858, 90709); 5 parasitic isopods collected at Morgan City, La., by Arthur Svihla (88906); (through Vernon Bailey) fish from the south end of Waterton Lake, Glacier National Park (89095); 98 plants, 5 sets of bird eggs, and 89 lichens, all from Alaska (89854, 91269, 91318); reptiles and amphibians from Minnesota (90600); 7 isopods from Telemanoe, Panama (91903); 878 mammals (92369).

(See also under Prof. W. J. Hoxie.)

Bureau of Entomology: 10,000 specimens, representing 2,000 species of Microlepidoptera (84490); (through E. B. Russell) 1,763 unidentified insects collected in northern Texas

AGRICULTURE, DEPT. OF—Contd.

Bureau of Entomology—Contd.

(88984); 11 mollusks from Perry County, Ala. (89018); land snail, 14 amphipods, and 6 isopods from Florida (89639, 90,404); 400 additional specimens of the Fernald type collection of insects (89762); 2,432 miscellaneous insects (90355); 78 lepidopterous larvæ representing 18 determined species (90701); (through H. A. Jaynes, Shanghai, China) 70 flies collected in China (90453); 8 specimens of buprestid beetles representing 2 species (90823); (through Japanese Beetle Laboratory, Riverton, N. J.) 86 specimens of fossorial Hymenoptera (90507); (through H. E. Burke, Pacific Slope Laboratory) 2 beetles (90944); 15,934 miscellaneous insects retained from material received for identification during the fiscal year 1925–1926 (92367).

Federal Horticultural Board: 3 isopods and 4 myriapods from France (87478, 88507); 2 shells from France (88220); 2 isopods from France and 1 from Japan (88710); 2 mollusks from France and Cuba, and 1 lizard from Honduras (89582); 4 specimens, 2 species, of mollusks from France and Spain (91432); 4 isopods from China, and 6 freshwater mollusks from Nanking, China (87916, 89533, 91835); approximately 63 mollusks and 3 isopods from Bizerta, Africa, and 1 worm from Germany; mollusk from Germany; 3 specimens of mollusks from Germany and Madeira Islands; 2 specimens of land shells from Germany (87911, 87917, 87929, 90648); amphipod (87975); crab and a frog from Kingston, Jamaica, and a centipede, tarantula, and lizard from Cuba (87990); frog from Cuba

AGRICULTURE, DEPT. OF—Contd.

Federal Horticultural Board—Con.

(88068); mollusk and a gecko from Jamaica (88071, 88957); 3 mollusks from Ireland and 3 isopods from the Madeira Islands and Ireland (87988); 2 lizards from Costa Rica (88100, 88605); 47 mollusks, 2 isopods, and a plant from Turks Island (88121, 88237); 7 mollusks (88487); 8 isopods from Holland, snail from London, and an isopod from China (88794, 88859, 88918, 88943, 89026); 7 isopods (88891); 2 land shells and a mollusk from Louisiana (89289, 90477); 7 fresh-water mollusks from Spain and Germany, 2 isopods from Holland and China (89326); 8 terrestrial slugs from Chile (89543); 4 isopods from England, 3 mollusks from Germany and Holland, and 2 lizards from Guatemala (89764); isopod from the Azores (89783); 25 mollusks from Mexico, Egypt, Japan, and Germany, 1 isopod from Italy, and 3 from Mexico (89826); mollusk (90363); 16 mollusks from Jamaica and Holland and 3 isopods from Jamaica (90472); 92 land mollusks from South Carolina and Mexico (90498); 3 frogs from Florida (90630); 2 lizards from Honduras, a mollusk from Italy, and 3 shells from India (90790); 3 isopods and 3 crabs from South Africa and Hawaii (90798); 2 freshwater shells from England and an isopod from Cuba (90822); lizard from Mexico (91287); 4 land shells, 3 species, from Greece and the Azores and an isopod from England (91310); 2 land shells from Italy (91368); 2 land shells from Italy and 2 isopods from South Carolina (91663); 3 isopods from Argentina and 1 from Ja-

AGRICULTURE, DEPT. OF—Contd.

Federal Horticultural Board—Contd.

maica (91814); young banana opossum (91773); 40 mollusks from Turks Island and 3 isopods from Venezuela (92145); 6 mollusks from Sweden and Australia (92146); shell from Bush Hill Park, England, and an isopod from Enfield, England 92203); 3,500 adults and 100 vials of larvæ and pupæ of insects, mostly Diptera, collected in Panama by C. T. Greene; also 2 iguana eggs (92366).

Forest Service: Plant from Alaska (88830); photograph of a type specimen of a plant (89589); a map showing National and State forests, national parks, etc. (91755).

Bureau of Plant Industry: 46 plants collected in Haiti by James R. Weir (87998); (through Dr. A. S. Hitchcock) fern from China; 21 plants from Straits Settlements; and 5 plants from Uruguay (87999, 89886, 89817); (through Dr. C. L. Shear) 64 cryptogamic plants from Colorado (88000); 20 ferns from China (88608, 88758); plant from North Carolina (88001); 41 plants (88087, 89514); 739 plants from Utah and Nevada (88136); (through H. C. Skeels) 20 ferns from Manchuria and a plant from Brazil (88481, 91745); plant from Iowa (88625); 3,918 plants collected in Brazil by Mrs. Agnes Chase (88757, 88970, 89019, 89711, 90650, 90671, 90802); 26 plants from Java (89025); plant from Long Island, N. Y. (89534); 42 plants from western Canada (89590); plant from Oregon (89591); 5 plants from Florida (89730); (through Dr. S. F. Blake) 22 plants from Peru, collected chiefly by Weberbauer (90367); plant from Kansas (90392); (through Dr. F. V. Coville) plant; 325 plants from California, chiefly Grossulariaceæ, collected by Dr. Coville; 4 plants from California; 2 plants from the western United States (90461, 91401, 91665, 91743); (through Mr. Perley Spaulding) 2 plants from Switzerland (90605); plant from Missouri (90794); 2 specimens and 7 photographs of palms (90801); (through Dr. O. F. Cook) 5 type specimens of new species of cotton plants from Mexico (91652); 10 photographs and 7 fragmentary specimens of plants (91657); plant from New Mexico (91656); plant from West Virginia (91878).

AGRICULTURE, DEPT. OF—Contd.

Bureau of Plant Industry—Contd.

Office of Foreign Seed and Plant Introduction. (See under T. E. Payne.)

AGUIRRE, Rev. S. Martinez, S. J., Sisoguichic, Mexico: 14 plants (90018).

AITCHESON, Samuel, Laurel, Md.: Skin and skull of a weasel, 2 weasel skulls, skull of a gray fox, all from Maryland (90616).

ALDRICH, Truman H., Birmingham, Ala.: 11 Miocene mollusks from Bowden, Jamaica (89722).

ALEXANDER, Miss Annie M., Suisun, Calif.: 5 skins with skulls of small mammals (88707).

ALFARO, Señor Don Anastasio, San Jose, Costa Rica: 41 orchids and ferns; 29 orchids from Costa Rica (88514, 88869); 98 plants, chiefly orchids, from Costa Rica (88727, 88976, 89994); 30 orchids (88131); fern from Costa Rica (90370); (through Charles Schweinfurth, Boston, Mass.), 2 plants from Costa Rica (91704).

ALLEMAN, Charles D., Argos, Ind.: Type of fresh-water mollusk (89261).

ALLEN, Professor Paul, Schaffhausen, Switzerland: 4 plants (92241). Exchange.

AMERICAN COLORTYPE CO., Chicago, Ill.: 2 copies of a reproduction of a painting by the Russian artist, Demishoff Uralsky, entitled "The Forest Fire" (92247).

AMERICAN FORESTRY ASSOCIATION, THE, Washington, D. C.: 6 colored cartoon posters showing results of carelessness with fires in the forests (91733), also an animated model of a forest fire made by Scene-in-Action Corporation (91874). Loan.

AMERICAN GEM AND PEARL CO., New York City: A cut gem of moss agate (89631).

AMERICAN MUSEUM OF NATURAL HISTORY, New York City: Cast of a fossil skull from Mongolia, casts of 2 meteorites, cast of a humerus of a fossil bird (88224, 89813, 90581). Exchange.

AMERICAN NUMISMATIC ASSOCIATION, New York City (through Moritz Wormser); Proof sheet showing the obverse design of one $500 and two $100 bills of the Bank of St. Thomas, Danish West Indies (90827).

AMERICAN OSTEOPATHIC ASSOCIATION, Chicago, Ill. (through Dr. Riley D. Moore, Washington, D. C.): Copy of volume 2, Osteopathic Magazine, for exhibit, illustrating the principles of osteopathy, also a Post instrument used by osteopathic physicians in treating flat feet (88754, 88945).

AMERICAN PHOTO-ENGRAVERS ASSOCIATION, Chicago, Ill. (through Edward Epstean): 2 sets of three-color half-tone proofs; 4 sets of progressive three-color half-tone proofs, and 3 extra-finished prints after the painting "A Bashi Bazouk," by Charles Bargue (88525, 88803).

AMERICAN PROTEIN CORPORATION, Boston, Mass.: 6 specimens of serum albumin, haemoglobin, and beef fibrin, products derived from beef blood, and a cake made with serum albumin instead of eggs (92346).

AMERICAN RAILWAY ASSOCIATION, SIGNAL SECTION, New York City (through H. S. Balliet, secretary): Original jackknife signal used on the Smithers Creek branch of the New York Central Railroad, near Smithers, W. Va., from 1901 to 1925, donated to the association by B. J. Schwendt, superintendent of signals, at Columbus, Ohio (90672).

AMERICAN RED CROSS, THE, Washington, D. C. (through Miss Irene Givenwilson): 16 child-welfare panels (88139).

AMERICAN TELEPHONE & TELEGRAPH CO., New York City (through F. W. Jewett): 24 specimens relating to the Bell system of transmitting pictures over telephone wires (89921).

AMES, ARTHUR M., Santa Barbara, Calif.: Tooth of a fossil from Riverside County, Calif. (89024).

AMET, E. H., Redondo Beach, Calif.: 3 motion-picture machines and 11 samples of motion-picture film, made 1896–1898 (90393).

AMINOFF, Prof. G. (See under Riksmuseets Mineralogiska Avdelning.)

AMSTUTZ, N. S., Valparaiso, Ind.: 2 early specimens of sending photographs by wire (90413).

ANDERSON, CHARLES, Washington, Va.: Skeleton of a barn owl from Virginia (91658).

ANDERSON, C. (See under Australian Museum, The.)

ANDERSON, JOHN, Valparaiso, Chile: 2 specimens of marsupial (90741).

ANDERSON, JOHN, Washington, D. C.: Bat (90443).

ARCHAEOLOGICAL SOCIETY OF WASHINGTON, Washington, D. C. (through Dr. George Grant MacCurdy, New Haven, Conn.): Collection of 803 paleolithic stone implements and 173 animal bones and teeth from Castel Merle at Sergeac, Dordogne, France (90005). Deposit.

ARGENTINA, AGRICULTURAL EXPERIMENT STATION, TUCUMAN: 40 insects from South America (87494).

ARIZONA, UNIVERSITY OF, Tucson, Ariz. (through Prof. J. J. Thornber): Plant from Utah (88808).

ARMITAGE, H. M. (See under Los Angeles County Horticultural Commissioner.)

ARMOUR & CO., Chicago, Ill.: 3 specimens of whole and prepared lamb intestines and a plate-glass case containing 34 specimens of finished catgut strings for musical instruments, tennis rackets, bead stringing, and surgical use; also 15 tubes of sterilized surgical catgut, 5 each of plain, chromic, and iodized (92212).

(See also under F. J. Bancroft Co., and Jackson Guldan Violin Company.)

ARMS, JOHN TAYLOR, Fairfield, Conn.: 3 etchings in line; 4 aquatints, 3 of them printed in color (88798).

(See also under Arthur W. Heintzelman.)

ARMS, W. S., Glenside, Pa. Three-barreled Marston pistol made in 1857 (90722).

ARNOLD, Lieut. LESLIE P., Los Angeles, Calif.: Original diary kept by Lieut. Leslie Arnold, observer of the flagplane *Chicago* during the round-the-world flight April 5–September 28, 1924 (89034). Loan.

ARSENE, Rev. Brother G., Covington, La.: 78 specimens of mosses and hepatics from Louisiana (88145).

ASCHEMEIER, C. R., United States National Museum: Skeleton of a barred owl from Washington, D. C. (92252); human skeletal material from a shell mound at Cedar Key, Fla. (92345).

ASHE, W. W., Washington, D. C.: 9 plants (91381).

AUER (Inc.), Milwaukee, Wisc.: Model of the sewage-disposal system used in the city of Milwaukee (90615).

AUSTRALIAN MUSEUM, THE, Sydney, New South Wales, Australia (through C. Anderson): 6 crabs (87678); (through Frank A. McNeill) 2 crabs collected in Australia (91331).

BABB, Mrs. E. LOUISE, East Lynn, Mass.: Pair of bugler's epaulets worn during the Civil War by George F. Butler and his honorable discharge from the Fifth United States Infantry (91464).

BACON SCHOLARSHIP. (See under Walter Rathbone Bacon Scholarship).

BAILEY, Dr. L. H., Ithaca, N. Y.: Fern from Florida (89858); 3 plants from Texas (90450) exchange: (through E. S. Steele) photograph of type specimen of a plant; 2 plants (91281, 91436).

BAILEY, VERNON, Washington, D. C.: Crab collected in Cameron County, La. (91359).

(See also under Agriculture, Department of, Bureau of Biological Survey.)

BAILLIE, WILLIAM E., Bridgeport, Conn.: 13 book plates and 1 presentation card (90371).

BAKER, Dr. F. H., Richmond, Victoria, Australia: Insect (90049); 30 mollusks from San Remo and Norfolk Island; also 2 starfishes (91309). Exchange.

BAKER, Miss HETTIE GRAY, New York City: 2 copies of bookplate by Alexander Hess (88472). Exchange.

BAKER, H. D., American consul, Trinidad, British West Indies: "Chanilla" caterpillar from Trinidad (91446).

BALL, Dr. C. R., Washington, D. C.: 4 plants from Alberta (90466).

BALL, Prof. O. M., College Station, Tex. (through Prof. O. P. Hay): Crocodile and 4 fishes from the Green River oil shales near De Beque, Colo. (89516).

BALLIET, H. S. (See under American Railway Association.)

BALLIET, LETSON, Tonopah, Nev.: 10 slabs of sandstone with jellyfish-like fossils from Nevada (88889).

BALME, Prof. JUAN, Mexico City, Mexico: Package of seeds (88156).

BANCROFT CO., F. J., Pawtucket, R. I. (through Armour & Co., Chicago, Ill.): 2 tennis rackets strung with the best grade of gut strings (92371).

BANCROFT & SONS CO., JOSEPH, Wilmington, Del.: Series of specimens showing the manufacture of sun-fast window hollands (88156). Deposit.

BANFIELD, ARTHUR C., London, England: 93 portrait and landscape prints (90429, loan); 6 mounts with a collection of photographic harmonographs on each (40 specimens) (90587); 5 pictorial photographs (92274).

BANN, JAMES, Cincinnati, Ohio: Wood engraving entitled "The Daughter of Herodias" (91349).

BARBER ASPHALT CO., THE, Philadelphia, Pa.: Model illustrating application of asphalt laid over a concrete floor slab, with a cove laid against a concrete wall (90664).

BARBER, H. S., Washington, D. C.: Shrew from Prince George County, Md. (90641); 6 fresh-water amphipods, 1 fresh-water shrimp, and 100 fresh-water copepods and cladocera from the Shaw Lily Pond, D. C. (91315).

BARBER, H. S., and C. R. SHOEMAKER, Washington, D. C.: 11 fresh-water shrimps, 6 fresh-water amphipods, 1 flatworm, and many copepods and cladocera from Shaw Lily Pond, D. C. (91384).

BARBOUR, Dr. THOMAS. (See under Harvard University, Museum of Comparative Zoology, Cambridge, Mass.).

BARCLAY, Capt. HUGH, United States States Embassy, Rio de Janeiro, Brazil: 3 manganese minerals from Brazil (88133).

BARMSTADT, W., Holst, Germany: 2 commemorative German medalets (91279).

BARTLETT, Capt. R. A., care National Geographic Society, Washington, D. C.: 50 fishes, 36 stomachs (mostly cod), 3 fish roe, crustaceans, holothurians, worms, 1 bird, and 77 plants, all from Labrador (89320); skeleton of a hooded seal from the Gulf of St. Lawrence (92205).

BARTRAM, EDWIN B., Bushkill, Pa.: 26 plants and 50 specimens of mosses from Arizona (88194, 88809, 91321).

BARTSCH, Dr. PAUL, United States National Museum: 2 shrews from Chesapeake Beach, Md. (88185).

BATES, FREDERICK J., Washington, D. C.: Specimen of calcite (Iceland spar) from Yocsina, Sierras of Cordoba, Argentina (89758).

BATSON, C. O., Perkinston, Miss.: Plant (90760).

BEAN, B. A., United States National Museum: 5 birds from Seaside Park, N. J. (88629).

BEAULIEU, GERMAIN, Montreal, Quebec, Canada: 5 marine shells (89245).

BECKER, Dr. GEORGE F. (through Mrs. Florence Campbell Forrester): Polished flint celt from south Sweden (87881).

BEECROFT, W. I., Escondido, Calif.: Plant (91375).

BELANSKI, C. H., Nora Springs, Iowa: A collection of invertebrate fossils, 7 of which are paratypes, from the Devonian of Iowa (90702, 91837).

BENEDICT, Rev. Bro. A., Santa Fe, N. Mex.: 393 plants from New Mexico (89902).

BENEDICT, Dr. J. E., United States National Museum: 3 short-tailed shrews (89021).

BENEDICT, J. E., Jr., Washington, D. C.: Fish and a lamprey eel from Tall Timbers, Md. (90377, 92302); 35 isopods and 5 amphipods from a small pond on the farm of E. W. Birgfeld, Maryland, near the District of Columbia (90588); 35 amphipods, 108 isopods, 2 beetles, and 3 salamanders collected by the donor (90685); 35 salamanders, 2 toads, 5 crayfishes, and 20 discodrilled

BENEDICT, J. E., Jr.—Continued. parasites therefrom, also a collection of 17 insects, including 7 rare fireflies, all collected by the donor in the Great Smoky Mountains of North Carolina (92325).

BENINGHAM MACHINE CORPORATION, Washington, D. C.: 3 original tire machines and parts (88148).

BENJAMIN, Dr. MARCUS, U. S. National Museum: 15 Bible plants from Palestine (89851).

(See also under Government Printing Office.)

BENNETT, H. H., Washington, D. C.: 6 plants from Costa Rica (88155).

BENNETT, Mrs. LOUIS, Weston, W. Va.: Commemorative scroll, letters, photographs, and newspaper clippings concerning the death in action during the World War of Lieut. Louis Bennett, jr., 40th Squadron, Royal Air Force (88843).

BENNETT, WILLIAM GAGE, New York City: Typewritten manuscript of Kingsbury's translation of Rostand's "Cyrano de Bergerac" as played by Richard Mansfield at the Garden Theater, New York, 1898 (90386).

BENTON, Dr. A. W., Neosho, Mo.: Miscellaneous fossil bones from Neosho (86315).

BENZON FLUOSPAR CO., Cave-in-Rock, Ill.: An unusually large and specially fine crystal of fluorite from the Spar Mountain mine of the Benzon Fluospar Co. (91985).

BEQUAERT, Dr. J., Boston, Mass.: 23 insects (89542). Exchange.

BERNICE PAUAHI BISHOP MUSEUM, Honolulu, Hawaii (through Edwin H. Bryan, jr.): 40 determined flies (90511).

BEZZI, Prof. M., Turin, Italy: 4 flies (87866). Exchange.

BING, Joseph M., New York City: Bromoil entitled "Passage at the Castle" (89094).

BIRNIE, Miss MARY WORTHINGTON. (See under Mrs. Henry B. Noble.)

BLACKWOOD LUMBER CO. (INC.), East La Porte, N. C. (through Hardwood Manufacturers Institute, Memphis, Tenn.): Large specimen board of red oak (89728).

BLAKE, Dr. S. F., Washington, D. C.: Nest and 5 eggs of a bird—the migrant shrike, from Maryland; also a purple grackle from Washington, D. C. (90395, 91876).

(See also under Agriculture, Bureau of Plant Industry.)

BLATCHLEY, W. S., Indianapolis, Ind.: 8 named bugs from Florida (88922).

BLUM, J. D., Wray Col. (through Interior Department, U. S. Geological Survey): 9 specimens, 2 species, of land shells from Wray, Colo. (88490).

BLY, Mrs. CHARLES, Kingman, Ariz.: 3 plants (91679, 91732). Exchange.

BODDING, P. O., Mohulpahari, India: 100 stone implements and a lot of beads from around Mohulpahari (90169).

BODEKER, Fr., Cologne, Germany: Plant (88948). Exchange.

BOGERT, Prof. M. T., New York City: 50 chemical specimens (88051).

BOGUE, R. H. (See under Portland Cement Association Fellowship.)

BOGUSCH, E. R., Austin, Tex.: 96 plants (91727).

BOLTON, THEODORE, Brooklyn, N. Y.: Photogravure in colors, after Whistler (92312). Loan.

BORDEN SALES CO. (INC.), New York City: Model of a dairy farm and milk-condensing plant (86554).

BOSCHMA, Dr. H., Leyden, Holland: 17 small crustaceans (89664).

BOSTON SOCIETY OF NATURAL HISTORY, Boston, Mass. (through C. W. Johnson): 9 specimens of flies (88132).

BOTANIC GARDENS, Brisbane, Queensland, Australia: 100 plants from Queensland and New Caledonia (91781). Exchange.

BOTANISCHER GARTEN UND MUSEUM, Berlin-Dahlem, Germany: 11 photographs and 13 fragmentary specimens of plants, largely repre-

BOTANISCHER GARTEN UND MUSEUM—Continued.

senting type material; 3 fragmentary specimens (types) of ferns from South America; 4 fragmentary specimens of ferns; 5 plants from Haiti; 6 ferns from tropical America; 750 plants from South America; fragmentary plant; 2 photographs of plants (88468; 88516; 88827; 88878; 89209; 89852; 90446; 91374). Exchange.

BOTTIMER, L. J., Houston, Tex.: 67 plants from the vicinity of Tucson, Arizona (89894).

BOYER, Mrs. B. S., Indio, Calif.: 4 files (89288).

BRADE, Alexander Curt, São Paulo, Brazil: 161 specimens of orchids and ferns from Brazil (88140). Exchange.

BRAINERD, Miss J. J., Washington, D. C.: Fern from Washington, D. C. (89267).

BRAME, J. W., Auckland, New Zealand: 107 ferns from New Zealand (91681). Exchange.

BRANDT, Lieut. Commander George E., United States Navy, Washington, D. C.: Crab from Pass Christian, Miss., and a parasitic isopod from a "hog fish" found in the Gulf of Gonaives, Haiti (89875).

BRIGHAM, Dr. Albert P., Hamilton, N. Y.: 3 photographs of views in the Alps (88971).

BRIGHAM, Edward M., Battle Creek, Mich.: Fragments of paint, fiber, and brass and a human skull; porpoise skull, without jaw, porpoise flipper, porpoise rostrum and lower jaw, all from the Gulf of Mexico; 2 armadillos (embryos) and a capabara from Brazil; otter skull from Alaska (88108, 89521, 89646, 89665).

BRIMLEY, C. S. (See under North Carolina, Department of Agriculture.)

BRINKMAN, A. H., Craigmyle, Alberta, Canada: 60 plants from Canada (89911).

BRITISH COLUMBIA, UNIVERSITY OF, Vancouver, B. C., Canada: A small collection of Mississippian fossils from Balfour, Washington (90514).

BRITISH GOVERNMENT:

British Museum (Natural History), London, England (through Dr. A. B. Rendle, keeper of the Herbarium): 941 plants chiefly from Australasia (89681). Exchange.

Royal Botanic Gardens, Kew, Surrey, England (through Dr. Arthur W. Hill, director): 7 plants and 4 photographs of types of plants (88855, 90520.) Exchange.

BRITISH GUIANA, Government of: *Science and Agriculture Department*, Georgetown, Demerara, British Guiana (through Sir John Harrison, director): Specimen of the rare mineral potarite from British Guiana (89783).

BRITTON, Dr. N. L., New York City: 3 plants from Porto Rico (90720, 90828).

BROADWAY, W. E., Port of Spain, British West Indies: 85 plants from Trinidad (87898, 88021, 89306, 90670): 10 plants (88208, 88911, 89596).

BROCKETT, Robert J., Jr., Pensacola, Fla. (through Francis M. Weston): Skull of a blackfish (88162).

BROOKS, Maurice, French Creek, W. Va.: Fern from West Virginia (90462).

BROWN, Edward J., Eustis, Fla.; 2 plants, 217 amphibians and reptiles from California and Florida, a bird's tongue, some insects, and bats (88931, 89546).

BROWN, H. O., Shungnak, Alaska: Skin of a white shrew (90622).

BRYAN, Edwin H., jr. (See under Bernice Pauahi Bishop Museum.)

BUCHANAN, George S., Tulsa, Okla.: A small collection of ostracods and conodonts from the Coal Measures of Oklahoma (91423).

BUCK, Mrs. MARGARET DOUGLASS, Estate of (through C. Douglass Buck, Wilmington, Del.): Approximately 1,000 shells, 1 coral, 1 edible bird's nest, 2 ostrich eggs, 1 albatross head, lot of geological specimens, arrowheads, and 2 specimens of lepidopterous insects from New Zealand (91740).

BUDLONG, ROSSER, San Fernando, Ariz.: 99 insects collected in Arizona, near San Fernando (88852).

BULLOCK, D. S., Angol, Chile: 68 flies and other insects (88788); 259 insects from Angol (90337).

BURBRIDGE, BENJAMIN, Jacksonville, Fla.: 2 skins and a skull of gorillas from Belgian Congo (90298).

BURKE, H. E. (See under Agriculture, Department of, Bureau of Entomology.)

BUSHNELL, DAVID I., Washington, D. C.: Indian skull from a mound on Weeden Island, Florida (88752); potsherds and perforated shells collected by the donor from an exposed cut in a shell mound on Weeden Island (90467).

BUSKIRK, Dr. J. D. VAN, Seoul, Korea: 2 photographs of Koreans (90509).

BUTLER, A. L., Horsham, England: Pair of hummingbirds from Brazil (90561). Exchange.

BUTNER, D. W., Bwana Mkubwa, N. Rhodesia: 2 insects (90373).

BUTTGENBACH, H., Brussels, Belgium: 2 specimens of minerals from the Kasola mine, Katanga, Belgian Congo (89765). Exchange.

CABOT, GODFREY L. (See under Dr. S. Albert Reed.)

CAHN, Dr. A. R., Urbana, Ill.: Fishes from Wisconsin (88107, 88749).

CALDERON, Dr. SALVADOR. (See under Salvador, Government of, Direccion General de Agricultura.)

CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Calif. (through Miss Alice Eastwood): Plant from Idaho; 2 ferns; 20 plants mainly from the western United States (88198; 89716; 89745, exchange); (through Interior Department, U. S. Geological Survey) cast of the hinge of a type specimen of a fossil shell (91698).

(See also under Navy Department.)

CALIFORNIA CITRUS EXPERIMENT STATION, Riverside, Calif. (through Harold Compere): 172 specimens of flies, being types of 23 species described by Compere (90825).

CALIFORNIA, UNIVERSITY OF, Berkeley, Calif. (through Prof. E. O. Essig): Fly from a squab (88050); (through Dr. E. D. Merrill) 544 plants from the Philippines, Borneo, and Sumatra; 16 ferns from China and Sumatra; 86 ferns from British India (89313; 89677; 90510, exchange); (through Prof. W. A. Setchell) 8 ferns from China and a plant from California (89743, 89855, exchange); (through Dr. C. A. Kofoid) 4 amphipods (90795); 13 plants from Asia (91376, exchange); 281 plants from the Samoan Islands (91680). Exchanges.

CAMERA CLUB, THE, New York City (through Floyd Vail, F. R. P. S.): 106 pictorial photographs for special exhibition (90644.) Loan.

CAMERON, Prof. A. E. (See under Saskatchewan, University of.)

CANADIAN GOVERNMENT:

Department of Agriculture, Entomological Branch, Ottawa, Canada (through C. Howard Curran): Specimen of fly (87192); fly, paratype (88226, exchange).

Department of Marine and Fisheries, Ottawa, Canada (through Frits Johansen): 15 mollusks, 6 species, from Newfoundland and Gulf of St. Lawrence (89559); 2 isopods from Rockcliffe, Ottawa, Canada (90582, exchange).

CANAVARI, Prof. MARIO. (See under Geological Institute, Pisa, Italy.)

CANFIELD, C. W. (See under Golder Co.)

CANSON & MONTGOLFIER, New York City: Vidalon portfolio of handmade papers (91260).

CAREY, Capt. CHARLES, Washington, D. C.: French coins, tokens, and paper currency of the World War period (68 specimens) (88839).

CARNEGIE INSTITUTE OF TECHNOLOGY, The Laboratory Press, Pittsburgh, Pa.: 10 examples of letter press printing (92313).

CARNEGIE INSTITUTION OF WASHINGTON, Coastal Laboratory, Carmel, Calif.: 2 plants (89637).

CARNEGIE MUSEUM, Pittsburgh, Pa.: 60 skeletons of birds and 1 bird skin from Colombia (85917, exchange); casts of types and other bones of fossil birds described by Dr. A. Wetmore (91293).

CARTWRIGHT, B., Ocean View, Va.: Cluster of stalked barnacles collected at Ocean View (88617).

CARUTHERS, MONRIS E., Glendale, Calif.: 45 mollusks from California and other localities (89699).

CASTELLANOS, Prof. ALBERTO, Buenos Aires, Argentina: 4 plants (88179, exchange); 9 plants (89014, 91827).

CAUM, E. L., Honolulu, Hawaii: 2 eggs laid in Honolulu by birds brought from Midway Islands (88894).

CHADWICK, STEVE, Punta Gorda, Fla.: Complete skull of an adult male Florida Indian, and a miscellaneous lot of human bones from the same locality (91813).

CHAMBERLAIN, Prof. CHARLES J., Chicago, Ill.: 7 lantern slides (92320, exchange).

CHAMBERLAIN, ESTATE OF EDWARD B. (through Prof. J. F. Collins, Providence, R. I.): 76 plants from New England (89547).

CHAMBERLAIN FUND, FRANCES LEE, Smithsonian Institution: 11 cut stones of jasper; 3 cut topaz with a total weight of 20.6 carats; 3

CHAMBERLAIN FUND, FRANCES LEE—Continued.

moss agates from Montana; 2 "landscape agates" from Montana; miscellaneous cut gems including rose quartz, onyx, and lapis lazuli; a Chinese carving of quartz; a citrine quartz from Brazil; 2 cut stones and 2 crystals of green tourmaline from Maine (87993; 88061; 88607; 89294; 89295; 90662; 91402; 91677; 91782).

CHANDLER, Miss GRACE. (See under Horace Parker Chandler.)

CHANDLER, HORACE PARKER (through Miss Grace Chandler, Brunswick, Me.): Potographic negative of a cobweb (91693).

CHARBNEAU, JULES L., Seattle, Wash.: United States copper one-cent piece coined in 1812 and carried around the globe by the United States Army aviator, Lieut. Erik H. Nelson in 1924 (89349).

CHASE, Mrs. AGNES. (See under Agriculture, Department of; and Jardim Botanico, Rio de Janeiro, Brazil.)

CHASE, Mrs. W. P. (See under Miss Mary Harrold.)

CHAVES, Sr. DON DIOCLESIANO, Managua, Nicaragua: 66 plants from Central America (90674).

CHICAGO TRIBUNE, THE, Chicago, Ill.: 10 sheets showing rotogravure printing in colors (90474).

CHILDS, Mrs. W. W. (See under Edward Rutledge Pinckney.)

CHRISTIAN, W. L., Binghamton, N. Y.: Model of a steamship, *William Baxter*, a grain-carrying, twin-screw, steam-propelled boat used on the Erie Canal in 1872 (86169).

CHRISTIANSON, Miss AGNES, Hubbard Woods, Ill.: Paper currency, silver and copper coins of Sweden (10 specimens) (88479).

CIA MEXICANA HOLANDESA LA CORONA, Tampico, Tamps, Mexico (through W. S. Adkins and Dr. T. W. Stanton): Specimen of fossiliferous rock from Antimonio, Sonora, Mexico (88828).

CLARKE, Dr. FRANK W., Chevy Chase, Md.: United States and foreign medals, tokens, and badges made 1895–1907 (11 specimens) (89519).

CLARKE, Mrs. JOSEPH T., Washington, D. C.: American Indian ethnological specimens presented to the Museum in memory of her husband, Col. Joseph Taylor Clarke, Medical Corps, U. S. Army (71 specimens) (91897).

CLAUDE JOSEPH, Brother. Correo Nunoa, Chile: 518 plants from Chile (89089, 91373, 91400).

CLEMENTS, J. MORGAN, Papeete, Tahiti, Society Islands: Small collection of miscellaneous insects, a few shells, and amphipods; also 63 crabs, 60 hermit crabs, 4 hippas, 2 shrimps, 4 medusae, mollusks, fish, 10 lizards, and echinoderms, all from the Society Island (88079, 89871).

CLEMSON AGRICULTURAL COLLEGE, THE, Clemson College, S. C. (through C. B. Nickels): 4 insects (89753).

CLENCH, WILLIAM J., Ann Arbor, Mich.: 9 specimens, 4 species of shells, paratypes of a new species from the United States (88968, exchange); 2 paratypes of a freshwater mollusk from the hot springs at Banff, Alberta, Canada (88986).

CLEVELAND PHOTOGRAPHIC SOCIETY, THE, Cleveland, Ohio: 88 pictorial photographs for special exhibition (91424). Loan.

CLINTON, H. G., Manhattan, Nev.: 2 specimens of minerals, vashegyite and opal, also 2 specimens of quartz with platy calcite crystals, all from Manhattan (89572, 90619); 4 fossil corals from near Death Valley (91872).

CLOPTON, Mrs. WILLIAM CAPET, Baltimore, Md.: A gold watch, with chain and bloodstone fob, owned by Judge William Capet Clopton (91452).

CLOSE, J. A., Gatun, Canal Zone: Plant from Canal Zone (88953).

COCKERELL, Prof. T. D. A., Boulder, Col.: Fossil palm seed from western Panama; 40 mollusks and a diplopod from various localities; 3 specimens of determined bees, new to the Museum collection; (through Dr. N. L. Britton, New York City): 65 plants; 30 insects, including 9 named species of bees, 6 of which are represented by paratypes; plant; 23 specimens, 4 species, of marine shells from Chile; 6 specimens of determined bees; 30 insects, including 14 specimens of named bees; fern from Peru; 16 miscellaneous insects; 45 miscellaneous insects, including 19 identified species, 5 of which are represented by paratypes; 67 insects, including 8 species of named bees, 1 species of which is represented by cotypes (85334, 88046, 88528, 88823, 88868, 88896, 88969, 88998, 89323, 89518, 89997, 90719, 92341); 17 slides containing the gentalia of 17 species of anthidiine bees (92340, deposit).

COLLINS, Mrs. B. H., Washington, D. C.: 2 birds from Virginia (89632).

COLLINS, Prof. J. FRANKLIN, Providence, R. I.: 59 plants (90778); 61 ferns from the northeastern United States (91276).

(See also under Edward B. Chamberlain, Estate of.)

COLLOM, Mrs. W. B., Payson, Ariz.: 4 plants from Arizona (91795).

COLORADO MUSEUM OF NATURAL HISTORY, Denver, Colo.: A complete individual weighing 370 grams of the Johnstown, Colo., meteoric stone (88240).

COLORADO, UNIVERSITY OF, Boulder, Col.: 822 west coast shells (89597). Exchange.

COMBS, JAMES. (See under Royal Palm Nurseries, Oneco, Florida.)

COMERFORD, B. M., Washington, D. C. Book entitled "Eikon Basilike, the Pourtracture of His Sacred Majestie in his Solitude," etc., 1649, with faint fore-edge painting, the

COMERFORD, B. M.—Continued.
binding said to be by Samuel Mearne; Irish coins issued 1683–1813 (28 specimens) (88009). Loan.

COMMERCE, DEPARTMENT OF:
Bureau of Fisheries: Large lithodid crab collected near Cordova, Alaska, by H. C. McMillin (86515); 3 fishes from North Carolina (88122); bird skin (Audubon's shearwater) (88229); 48 fishes and 245 birds (88294); 84 specimens, 14 species, of amphipods, including 8 types, 83 marine invertebrates, and a comprehensive collection of brachyuran crabs comprising 536 specimens, inclusive of 169 larval forms, and the types of 2 new species, collected by the fisheries steamer *Albatross* on the 1911 cruise in the Gulf of California (88473, 89741, 92243); Melanesian spearhead picked up in Vineyard Sound, Massachusetts (88699); 2 snakes, 8 sponges in their natural state, and 5 xanthid crabs, all from Florida (88743, 89741, 91856); 8 sponges from Cartagena, Colombia (88886); 7 type specimens of fishes (89292, 90819); 4 amphipods from Woods Hole, Mass. (90496); 25 shrimps, and 2 parasitic isopods taken from the same, collected at Beaufort, N. C. (90677); 33 bottles of miscellaneous specimens comprising towings made by the steamer *Fish Hawk* off the coast of North Carolina (90820); 6 fishes from the Carribean Sea off the coast of Honduras, Gulf of Mexico, and Key West (91427).
Bureau of Fisheries Laboratory, Beaufort, N. C. (through James S. Gutsell): 6 specimens, 1 species, of oyster shells, from Pivers Island, N. C. (90580).
Bureau of Lighthouses (through George R. Putnam, Commissioner): Model of Fowey's Rocks Lighthouse (89020).

COMMERCIAL SOLVENTS CORPORATION, New York City: Wall chart on which are mounted 23 objects illustrating the important uses of three chemical solvents, namely, butanol, acetone, and ethyl alcohol (89819).

COMPERE, HAROLD. (See under California Citrus Experiment Station, Riverside, California.)

CONDER, HARTWELL, Strahan, Tasmania: An example of "Darwin glass" from western Tasmania (88069).

CONGER, Mrs. J. H., Edenton, N. C.: Moth from North Carolina (88020).

CONZATTI, Prof. C., Oaxaca, Mexico: 22 plants from Mexico (88892).

COOK, Miss FANNYE A., Washington, D. C.: Approximately 80 birds' eggs and 94 plants from Mississippi (90870, 91858).

COOK, Dr. O. F. (See under Agriculture, Department of, Bureau of Plant Industry.)

CORNELL UNIVERSITY, Department of Entomology, Ithaca, N. Y.: 200 stoneflies (90585). Exchange.

CORNWALL, Ira E., Victoria, British Columbia, Canada: Miscellaneous cetacean bones and several groups of barnacles, also examples of fossil wood and worm borings from the Sooke formation, Vancouver Island, B. C. (90757, 92154).

CORRINGTON, Dr. J. D., Columbia, S. C.: Jelly-fish and 3 spider crabs collected by the donor off the coast of Georgia (91863).

CORY, ERNEST N. (See under Maryland, University of.)

COVILLE, Dr. FREDERICK V. (See under Agriculture, Department of, Bureau of Plant Industry; William C. Ferguson; and Minnesota, University of, Minneapolis, Minnesota.)

COX, J. W., Washington, D. C.: 4 specimens showing types of wood joints (91419).

CRAIG, ALEX K., Wilmington, Del.: Specimen of sargassum fish (89290).

CRAIGHEAD, Miss ALICE W. (See under Rev. James G. Craighead.)

CRAIGHEAD, Rev. JAMES G. (through Miss Alice W. Craighead, Washington, D. C.): 4 line engravings by James Smillie after the series of paintings by Thomas Cole "The Voyage of Life" (89769).

CRANE, Miss HELEN GARDENER. (See under Mrs. Helen H. Gardener, Estate of.)

CRAWFORD, J. C. (See under North Carolina Department of Agriculture.)

CREIGHTON, T. S., Blue Ridge Summit, Pa.: Approximately 200 mollusks from the Bermuda Islands (90834).

(See also under Edward Healey.)

CREIGHTON, Mrs. THOMAS S., Blue Ridge Summit, Pa.: Land shell from Blue Ridge Summit (88913).

CRIDER, Prof. FRANKLIN J., Superior, Ariz.: 3 plants (91445).

CRIMMINS, Col. MARTIN L., United States Army, Fort Sam Houston, Tex.: Snake, 3 plants, mammal, and a tarantula, all from Texas (90695, 91661, 91769); snake, frog, scorpion, and a moth (91274, 91807).

CROCKER, HENRY, Chester, Vt.: Cast of a trilobite from Parker Ledge, Georgia, Vt. (88255).

CROOK, Miss MARY E., Washington, D. C.: A bonnet of the early part of the 19th century (88871).

CROSBY, Dr. C. R., Ithaca, N. Y.: 4 isopods from Texas, collected by Dr. and Mrs. A. H. Wright (90870).

CURRAN, C. HOWARD. (See under Canadian Government, Department of Agriculture.)

CURRAN, H. M., Raleigh, N. C.: Specimen of hemlock from North Carolina (88404).

CURRAN, Mrs. J. M., Toledo, Ohio: Plate of Staffordshire ware, dating probably from 1750–1800 (90213).

CURRY, Dr. D. P. (See under Panama Canal, The.)

CUSHMAN, Dr. JOSEPH A., Sharon, Mass.: 9 species (paratypes) of Eocene ostracods and foraminifera from Vera Cruz, Mexico (88004).

DALL, Dr. W. H., Washington, D. C.: Ladle made from horn of sheep by Port Clarence Eskimo, Bering Strait, Alaska (91371).

DAVIDSON, Dr. A., Los Angeles, Calif.: 3 plants from California (87944, 88056).

DAVIS, RAYMOND, Washington, D. C.: Exhibit showing a method of deciphering charred paper records (88073). Loan.

DAVIS, WILLIAM T., Staten Island, N. Y.: Paratype of cicada from Upland, California (90673); 2 insects (90955). Exchange.

DEAN, A. L. (See under Hawaii, University of.)

DEGENER, OTTO, Honolulu, Hawaii: 72 specimens, 7 species, of hermit crabs, collected by the donor in Hawaii (88233); plant from the vicinity of Honolulu (88912).

DEMAREE, Mrs. F. L., Laurel, Md.: Bonnet, 2 dresses, and 2 dolls of the 19th century; also natural history specimens (90493).

DEN DANSKE ARKTISKE STATION, Disko, Greenland (through Dr. Morten P. Porsild, Director): 145 plants from Greenland (88513). Exchange.

DENNIS, Mrs. V. A., Springer, N. Mex.: Specimen of "Carilla," a form of wool prepared by Navaho Indians about 1850, taken from an Indian grave in Arizona (90684).

DICKEY, Prof. S. S., Cambridge Springs, Pa.: 17 plants (89062).

DICKINSON, H. W. (See under Newcomen Society, The, London, England.)

DIEHL, WILLIAM W., Washington, D. C.: Plant from the District of Columbia (91799).

DILL, Dr. DAVID BRUCE, Stanford University, Calif.: Sample of the chemical compound gliadin (87769).

DIMOCK, Mrs. W. DEW., Elmington, Va.: Skull of an Indian child about 4 or 5 years of age (91778).

DOANE, Gromer H., Los Angeles, Calif.: 5 samples of foraminferal material from the Tertiary of California (88847). Exchange.

DOBSON, Dr. W. H., Yeungkong, Kwantung, China: Skin valise made of leather covered with several coats of Chinese lacquer (91664).

DODD, Alan P., Uvalde, Tex.: 40 specimens of cacti (88615).

DOELLO-JURADO. (See under Museo Nacional, Buenos Aires).

DOGNIN COLLECTION FUND (through Dr. William Schaus): The Dognin collection of moths and butterflies, consisting of over 82,000 specimens, including at least 3,000 types of American species described by Dognin; also approximately 250 types, almost entirely American, of other describers (purchased by the generous contributions of certain citizens of the United States) (88066).

DONDERO, A. H., Washington, D. C.: United States Army uniform insignia for collar of the design adopted in 1925 (20 specimens) (90011).

DOWELL, Dr. Philip, Pierson, Fla.: 6 ferns from Florida (91440).

DOZIER, Dr. H. L., Newark, Del.: 2 specimens, type and paratype, of a bug (91296); 7 chalcid flies belonging to the subfamily Aphelininae, being types of 3 species described by the donor (92207).

DRANGA, Theodore T., Honolulu, Hawaii: 14 shells, 8 species, from Hawaii (89239).

DRAPER, W. P., New York City: 7 skulls and 5 scalps of mammals and two pairs of antlers (91039).

DRIVER, F. H., Washington, D. C.: Samar knife captured near Quinapunder, Samar, P. I., December, 1901, by the donor while bugler of Co. I, 11th United States Infantry (88006).

DUNCAN, O. C., Durant, Okla.: Samples of a magnetic form of ferric oxide, and of bentonite, from Bryan County, Oklahoma (89806).

DUNN, Miss Helen F., Christiansted, St. Croix, Virgin Islands of the United States (through Miss Helen Teal, Washington, D. C.): 53 shells from the Virgin Islands of the United States (91426).

DUNN, Maj. L. H., Ovid, N. Y.: 14 insects (88101); 10 ostracods collected by the donor at Maracaibo, Venezuela (88104).

DU PONT DE NEMOURS & CO. (INC.), E. I., Wilmington, Del.: 12 specimens of organic chemicals used as accelerators in the vulcanization of rubber (88804).

DURLAND, W. D., New York City: 7 plants from Guatemala (88914).

DURY, Charles, Avondale, Ohio: Cotype of a beetle (88526).

DUSSOME, Carl Reid, Sedan, Okla. (through Dr. J. W. Gidley); Fossils from Oklahoma (89671).

DUVAL, Hugh H., Bastrop, Tex.: 5 plants (89017).

DWORAK, Maj. Edward, United States Army, Baltimore, Md.: Collection of Moro brass (91 pieces) (92368). Loan.

DWORKOWICZ, Rev. Paulus, Zurich, Switzerland: Pair of phylacteries, parchment manuscript of the book of Esther, and a parchment manuscript of a Mezuzah (87879).

EAKIN, J. R. (See under Interior Department, National Park Service.)

EASTMAN, Tom L., Tampico, Mexico: Specimen of lantern fly (89528).

EASTWOOD, Miss Alice. (See under California Academy of Sciences.)

ECKERMANN, Dr. Harry von, Ljusne, Sweden: 15 Specimens of minerals and 2 rocks from Finland and Sweden (89697). Exchange.

EDDY, Dr. Walter H., New York City: Sample of chemical for the Loeb Collection of Chemical Types (88802).

EDISON LAMP WORKS OF THE GENERAL ELECTRIC CO., Harrison, N. J. (through Henry Schroeder): 6 incandescent lamps, 1926,

EDISON LAMP WORKS OF THE GENERAL ELECTRIC CO.—Con. with inside frosting, and 1 incandescent lamp, 1926, for projection service (91441).

EDMONDSTON, DAVID B. (See under Photographers Association of the Middle Atlantic States.)

EDMONSON, Dr. C. H., Honolulu, Hawaii: 9 lots of corals from Oahu (88254).

EDSON, W. L. G. (See under Rochester Park Department.)

EDWARDS, HARRY T. (See under Philippine Islands, Government of, Bureau of Forestry.)

EGAN, W. P., Parkersburg, W. Va.: Confederate artillery saddle captured by Maj. Michael Egan, West Virginia Volunteers, at Appomattox, Va., in 1865 (88635).

EHLERS, Prof. G. M. (See under Michigan, University of.)

EHRHARDT, Dr. W., Westfield, Tex.: 3 tapeworms (90835).

ELGIN NATIONAL WATCH COMPANY, Elgin, Ill.: Collection of watches and watch parts showing the manufacture and arrangement of the modern watch as produced by the Elgin Co. (88241); (through W. H. Samelius) 3 prints (duplicates) showing positions in which a watch is tested (89729).

EMERSON, P. H., Eastbourne, Sussex, England: Booklet (88856).

EMMET, Mrs. ROBERT R. M., Rye, N. Y. (through Dr. Alfred F. Hopkins): American and foreign swords of the 18th and 19th centuries (91731).

ENGBERG, Dr. CARL C., Lincoln, Nebr.: 261 mollusks from Nebraska, Washington, and various other localities; 63 specimens, 9 species, of mollusks, from Utah, Idaho, and Washington; 21 specimens, 8 species, of land shells from Nebraska and Washington (88790, 89551, 91749).

ENGLISH, ARTHUR, St. John's Newfoundland: 12 worm tubes of a marine worm from Placentia Bay, Newfoundland (89327).

ENTEVS, ERNST, Cambridge, Mass.: 2 samples of varved glacial clay (90703).

EPLING, CARL, Los Angeles, Calif.: 29 ferns from Idaho (88521).

EPSTEAN, EDWARD. (See under American Photo-Engravers Association.)

ESSIG, Prof. E. O. (See under California, University of.)

ESTACION EXPERIMENTAL AGRONOMICA, Santiago de Las Vegas, Cuba: 3 plants (88045).

EVANS, VICTOR J., Washington, D. C.: Colonial copper teakettle; giant salamander from Japan; peafowl, white variety; black-necked swan (88157, 89015, 90483, 91902).

EVINRUDE MOTOR CO., Milwaukee, Wis.: Photograph of a boat equipped with two-cylinder Evinrude outboard motor, in which two men made a trip from San Francisco to New York in 1925 (89425).

EWING, Dr. H. E., Washington, D. C.: Specimen of short-eared owl from Maryland (90388).

EYERDAM, WALTER J., Seattle, Wash.: 7 specimens, 2 species, of land and fresh-water mollusks from Washington and Oregon (90613).

FAGAN, CHARLES L., Rahway, N. J.: 2 specimens of petrels from the Pacific coast of South America (88750); 3 bird skins from the west coast of South America (89637).

FAIRCHILD, Dr. DAVID. (See under M. Elias Santos Abreu.)

FARWELL, O. A. (See under Parke, Davis & Co.)

FAZ, Señor ALFREDO, Santiago, Chile: 57 flies from Chile (88134).

FEARNLEY, Mrs. JOHN, Daytona, Fla.: 3 plants from Florida (90436, 90683).

FELIPPONE, Dr. FLORENTINO, Montevideo, Uruguay: 50 specimens of mollusks, 13 marine invertebrates, and a small collection of insects from Uruguay (87552); 18 butterflies, 12 mollusks, 20 specimens, 13 species, of land, fresh-water, and marine shells and a barnacle, all

FELIPPONE, Dr. FLORENTINO—Con. from South America (88218, 89001, 89845); 31 mollusks from Uruguay (88634); snake, 2 lizards, 2 frogs from the Paraguayan Chaco (89804); marine invertebrates, comprising 2 anemones, 1 lot of hydroids, 2 ascidians, 1 alcyonarian, and a worm-tube, and a collection of echinoderms, insects, reptiles, batrachians, and lizards, 2 spiders, a fish, a mammal skull, mollusk, and a human skull (90624); 17 shells, 2 barnacles, and a few insects, including a new species (92254).

FENTON, CARROLL LANE, Lakeland, Fla.: 8 specimens of Devonian invertebrate fossils from Iowa (88825).

FERGUSON, WALTER, Washington, D. C.: Silk handkerchief bearing a printed design commemorating the deaths of officers and men killed by an explosion on the U. S. S. *Missouri*, April 13, 1904 (89889).

FERGUSON, WILLIAM C., Hempstead, N. Y.: 17 plants from New York (87997); 6 plants (88205); (through Dr. F. V. Coville); plant from New York (89760).

FERNALD, Prof. H. T., Amherst, Mass.: Specimen of fly (90596).

FERRISS, JAMES H., Joliet, Ill.: 2 specimens of cacti, and a plant from Texas (88008, 90508). Exchange.

FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.: 5 examples of meteorites (87821); 1,146 plants from Yucatan (88879); 411 specimens of plants from Yucatan, collected by Dr. G. F. Gaumer (89034); 30 plants (89878); 23 plants from Peru (90003, 90342); 5 plants (91277). Exchange.

FILARSZKY, Dr. FERD. (See under Hungarian National Museum.)

FISHER, FRANKLIN L. (See under National Geographic Society.)

FISHER, GEORGE L., Houston, Tex.: 190 plants, chiefly from California, and 105 plants from Colorado (88723, 88819).

FISHER, Prof. W. J. (See under Harvard College Observatory.)

FITZPATRICK, A. L., Waco, Tex.: 4 mollusks from Texas (90789).

FLANDERS, S. E. (See under Saticoy Walnut Growers Association.)

FLINT, J. HOWARD, Washington, D. C.: Slug from the District of Columbia (88883).

FLORIDA, UNIVERSITY OF, Agricultural Experiment Station, Gainesville, Fla. (through W. E. Stokes): 5 plants from Florida (90362).

FORCE, EDITH R., Okmulgee, Okla.: 23 fishes (90661).

(See also under Okmulgee High School.)

FORD, JOHN HOWARD, Washington, D. C.: Bow of camagon wood and 7 arrows from Zambales, Province, P. I. (88753).

FORD MOTOR CO., Detroit, Mich.: Models of 2 by-product manufacturing plants, viz, a wood distillation and carbonizing plant utilizing sawdust and waste wood material; and a coal distillation plant producing coke and chemical by-products; also specimens of wood, coke, and by-products (91109). Loan.

FOREST RESEARCH INSTITUTE AND COLLEGE, Dehra Dun, U. P., India: 61 plants from India (89850). Exchange.

FORRESTER, Mrs. FLORENCE CAMPBELL. (See under Dr. George F. Becker.)

FOSTER, JOHN G., De Land, Fla.: 2 beetles from Florida (88750, 89601).

FOX, Dr. CARROLL. (See under Treasury Department, U. S. Public Health Service, Los Angeles, Calif.)

FRANCIS, Dr. MARK, College Station, Tex. (through Dr. O. P. Hay): Portions of five teeth of a fossil horse from Texas (89645); left third molar tooth of a mastodon (88485). Exchange.

FREYTAG-LORINGHOVEN, Baron of, Wiesbaden, Germany: Russian historical costume dolls (10 specimens) (88768).

FRIC, A. V., Prague, Czechoslovakia: 6 specimens and a photograph of cacti (88137, 88897). Exchange.

FRISON, Dr. T. H. (See under Illinois, State Natural History Survey Division.)

FROST, C. A., Framingham, Mass.: Beetles from Chile and the United States (88628).

FROW, Mrs. James R., Washington, D. C.: English luster porcelain teacup and saucer of the period of 1770–1790 (90465).

FUCHS, Emil, New York City: 10 etchings (90012).

FULCHER, J. H., Sneads Ferry, N. C.: 8 shells growing on a bottle collected at New River, North Carolina (90880).

FULMEK, Dr. Leopold, Medan Sumatra, Dutch East Indies: 47 insects (90072). Exchange.

GABRIEL, Charles L., Terra Haute, Ind.: 10 specimens of chemicals for the Loeb Collection of Chemical Types (90411).

GAGE, R. B., Trenton, N. J.: 6 minerals from Franklin Furnace, New Jersey (89766); 4 minerals (90868). Exchange.

GALE, Mrs. Margaret Morris, Glendale, Calif.: 2 flounces of French Point lace, a veil of Italian lace, and a photograph showing a bride wearing the veil (91653).

GANN, Dr. Thomas, Belize, British Honduras: 14 photographs of Indian natives of British Honduras (88905).

GARDENER, Mrs. Helen H., Washington, D. C.: Japanese and Porto Rican ethnological specimens, and an American flag used in Porto Rico (89790). Bequest.

GARDENER, ESTATE OF MRS. HELEN H. (through Miss Helen Gardener Crane, Washington, D. C.): Collection of Indian baskets and photo albums, slides, negatives and prints of European and Asiatic subjects, watch and fob, and 3 American flags, a telescope, and case (90351).

GARNETT, Porter, Pittsburgh, Pa.: Book set in type entirely by the donor, entitled "That Endeth Never," by Hildegarde Flanner (91366).

GARRETT, A. O., Salt Lake City, Utah: 6 plants from Utah (88783, 88899, 89868, 91405).

GATER, B. A. R. (See under Straits Settlements.)

GATES, Dr. Gordon E., Rangoon, Burma: 50 rotifers, vial of acarina and 2 vials of flukes (88036); 6 topotypes of fluke, from the intestine of the pig (89541); 32 earthworms from Rangoon (90864).

GATES, Rev. Sebastian, Grenada, B. W. I.: 4 insects from the British West Indies (88018, 88250, 91726).

GEE, Dr. N. Gist, Peking, China: 4 lots of fresh water sponges from Nanking and Tsinan, China, collected by the donor (88865.)

GENERAL RUBBER CO., The. (See under the Rubber Association of America (Inc.).)

GENTNER, L. G., East Lansing, Mich.: 7 beetles and 16 specimens of flea beetles, representing 7 species, including 4 paratypes of 2 species (89918, 90635); 11 named halticine beetles representing 7 species (91836). Exchange.

GEOLOGICAL INSTITUTE, Regia University, Pisa, Italy (through Prof. Mario Canavari): 28 casts of trilobites (88950). Exchange.

GEOLOGICAL INSTITUTE, IMPERIAL UNIVERSITY, Tokyo, Japan (through Prof. B. Koto): Examples of intraformational conglomerate from Korea (91322).

GIDLEY, Dr. J. W. (See under Carl Reid Dussome.)

GIFFAN, R. L. (through Motion Picture Producers and Distributors of America (Inc.), New York City: 2 Edison motion-picture cameras, motor driven with 1 motor, 1911, and an Edison light-testing machine, 1913–1915 (88755).

GILBERT, Harold F., Sentinel Butte, N. Dak.: Fossil fish on a slab from Sentinel Butte (87496).

GILL, Dr. Laney, Washington, D. C.: Watkins exposure meter and a Thornton Pickard shutter (88898); 2 reproductions of paintings, in color, made by the Detroit Publishing Co. (90824); oil painting on copper (91783). Loan.

GILLIN, J. R., Ambler, Pa.: 5 eggs of the elegant tern from Lower California (88060). Exchange.

GILMAN, M. French, Banning, Calif.: 3 plants (92306).

GIVENWILSON, Miss Irene. (See under American Red Cross, The.)

GLENN, Prof. L. C. (See under Vanderbilt University, Nashville, Tenn.)

GOELAM, Dr., Kepahiang, Sumatra (through Lieut. H. C. Kellers, U. S. Navy): 3 gilt brass models of a moseque, a "Minangkabau" house, and a rice barn from Sumatra (91399).

GOLDEN, J. W., Laurel, Md.: Red-tailed hawk from Maryland (89888).

GOLDER CO., Wilmington, Del. (through C. W. Canfield): Pelt of a partially albinistic muskrat (91981).

GONGGRYP, J. W., Buitenzorg, Java, Dutch East Indies: Approximately 50 specimens of shipworms from Clevia Estate, Dutch Guiana, and 3 species of isopods from the entrance to the harbor at Curaçao (88488).

GORDON, Mrs. Caroline M., Takoma Park, Md.: Wool embroidered linen quilt, the weaving of the linen, the spinning and dyeing of the worsted, the designing of the pattern and the needlework, having been done by Mary Babson Lane Soule (grandmother of the donor) of Freeport, Me., about the year 1790 (88838).

GOSSWEILLER, J., Loanda, Angola, Africa (through Prof. A. S. Hitchcock, Washington, D. C.): 92 plants from Angola, Africa (89028).

GOVERNMENT MUSEUM, Madras, India (through Dr. A. Hrdlicka): 7 stone implements from the Province of Madras (88426).

GOVERNMENT PRINTING OFFICE, Washington, D. C. (through Dr. Marcus Benjamin): Set of 6 proofs showing the processes used in printing the colored illustration of "The Star Spangled Banner," published in the sesquicentennial number of "The American Printer, 1926" (91674).

GRABHAM, Dr. M., Kingston, Jamaica, West Indies: 6 wasps from Jamaica (92201).

GRAHAM, Rev. David C., Suifu, Szechwan, China: 125 fishes, 175 mollusks, 11 leeches, approximately 100 shrimps and 3 bottom samples; also insects (87878); frog, lizard, 4 snakes, 6 mammals, 9 fishes, 63 land and fresh-water mollusks, 6 earthworms, and a small collection of insects (88221); 4 frogs, 8 snakes, 2 salamanders and 3 lizards, 72 fishes, 135 specimens, 17 species, of mollusks, 37 bird skins, 2 mammals, 3 crabs, 50 shrimps, 1 earthworm, and a collection of miscellaneous insects (88722); piece of rock with fossils, and mammal skin and bones (90642); 355 bird skins, 16 mammals, 5 batrachians, 2 crabs, and a small lot of insects (91355); 373 fishes, 53 mollusks and 1 frog collected in the vicinity of Suifu, Szechuen, China (87964); mammals, reptiles, mollusks, insects, and geological specimens from China (89413); 4 ethnological and 9 religious specimens from China and Tibet (92228).

GRANT, Mrs. Adele Lewis, Ithaca, N. Y.: 22 plants (88178).

GRANT, J. M., Marysville, Wash.: 99 plants from Washington (89262, 89322).

GRAVES, E. W., Bentonsport, Iowa: 178 plants from Iowa and Colorado (90421).

GRAY, Fred W., Cass, W. Va. (through Dr. Edgar T. Wherry): 5 ferns from West Virginia (89714).

GREENE, F. C., Tulsa, Okla.: 5 plants from Oklahoma (89757); approximately 75 land and fresh-water

GREENE, F. C.—Continued.
shells from Arkansas, Oklahoma, Kansas, and Indiana (91302); 44 plants from Colorado and Oklahoma (91888).

GREENE, Mrs. FRANK C., Tulsa, Okla.: Fern from Colorado (91735).

GREENE, GEORGE M., Harrisburg, Pa.: 169 insects (89767).

GREENE, J. V., Washington, D. C.: A fresh-water mussel from British Columbia (88077).

GREENMAN, Miss HELEN BLANCHE, Winchester, Mass.: 16 ferns from the Hawaiian Islands (91434).

GREENWALD, ISIDOR, New York City: 8 chemicals for the Loeb collection of chemical types (88052).

GRISWOLD, CHESTER, Smyrna, Turkey (through H. F. J. Porter, New York City): United States flag which was flown on the U. S. S. *Monitor* during the period of the Civil War; 3 account books and a collection of letters and documents concerning the construction of the *Monitor* and other ships (90398). Loan.

GUADAGNO, ING. MICHELE, Naples, Italy: 69 specimens, chiefly volcanic rocks, from Italy (90850). Exchange.

GUARDE, Dr. ARTURO MONTORO, Montevideo, Uruguay (through Dr. Waldo L. Schmitt): Plant (90618).

GUATEMALA, GOVERNMENT OF:
Dirección General de Agricultura (through Sr. Don Jorge G. Salas, director): 5 plants (88146); collection of seeds from Guatemala (88799); 14 plants from Guatemala (88983).

GUNTHER, Sr. RAFAEL YELA, Guatemala, Guatemala: 2 examples of modern Teotihuacan (Mexican) pottery (90634).

GUTSELL, JAMES S. (See under Commerce, Department of, Bureau of Fisheries.)

GUYTON, T. L., Harrisburg, Pa.: Isopods collected by G. H. Young from a well in Greenville, Pa. (89277).

HALL, OSCAR C., St. Michael, Alaska: Mummied specimen of ruby-throated humming bird from near St. Michael (90591).

HALLE, Dr. T. E. (See under Riksmuseets Paleobotaniska Avdelning.)

HAMLIN, Mrs. HOMER, Los Angeles, Calif.: Molar tooth of a fossil elephant (88010).

HAMMERMILL PAPER CO., Erie, Pa.: 26 specimens and 1 photograph illustrating the manufacture and use of sulphite wood pulp for writing paper (88726).

HAMMOND, CHARLES, El Paso, Tex.: 12 plants (88181, 89303); 6 living cactus plants (88057).

HAND, Mrs. D. W., Washington, D. C.: Small collection of Philippine weapons and basketry (90746).

HANSEN, Mrs. JOHN V., Washington, D. C.: 6 pieces of Korean mortuary pottery of the twelfth century, a small wood carving, and a gold bracelet, Roman, of the first to third century, A. D. (91753).

HARDWOOD MANUFACTURERS INSTITUTE, Memphis, Tenn. (See under Blackwood Lumber Co. (Inc.).)

HARLAN FUEL CO., Harlan, Ky.: Sandstone cast of a fossil plant (89302).

HARNED, Dr. R. W., Agricultural and Mechanical College, Miss.: 3 worms collected by C. E. Harrison of Shaw, Miss. (87692).

HARPER, Dr. R. M., University, Ala.: 56 plants (88728); plant from Alabama (88947).

HARRIS GRANITE QUARRIES CO., THE, Salisbury, N. C.: Cube of granite 2 feet 8 inches square (88013).

HARRISON, Sir JOHN. (See under British Guiana, Government of.)

HARROLD, Miss MARY, and Mrs. W. P. CHASE, Washington, D. C.: Rose point collar and cuffs, French, period about 1700, formerly worn by Princess Caroline Murat at the court of Napoleon III (91898).

HARVARD UNIVERSITY, Cambridge, Mass.:

Arnold Arboretum, Jamaica Plain: 548 plants (90803). Exchange.

Gray Herbarium: 11 plants (89691, 91421, 92309). Exchange.

Harvard College Observatory (through Prof. W. J. Fisher): 4 photographs and 4 lantern slides of meteors (91453).

Department of Mineralogy and Petrography (through Prof. Charles Palache): Piece cut from a meteoric stone from Texas (87370); 7 minerals from the Lake Superior copper deposits (89592); a 655-gram slice from the Ollagne, Bolivia, pallasite; 20-gram slice from the Britstown, South Africa, meteoric iron and a specimen of basalt with olivine inclusions, from Hawaii (90387); 3 examples of meteorites, Cumpas, Gun Creek, and Mount Ouray (90771). Exchange.

Museum of Comparative Zoology (through Dr. Thomas Barbour): Paratype of a lizard from Gonaives Island, and 9 lizards from Honduras (88467, 88480).

HASKETT, Mrs. Bert, Phoenix, Ariz.: 2 plants (88835).

HAUGHT, Oscar, Littleton, W. Va.; 186 plants from Peru (91742).

HAVANA, CUBA, Colegio "Champagnat": 50 insects (89658).

HAWAII, UNIVERSITY OF, Honolulu, Hawaii (through A. L. Dean, president): 4 specimens of chemicals for the Loeb collection of chemical types (88053).

HAWAIIAN SUGAR PLANTERS' ASSOCIATION EXPERIMENT STATION, Honolulu, Hawaii (through O. H. Swezey): 8 flies (87298).

HAWLEY, Dr. I. M. (See under Utah Agricultural College.)

HAY, Dr. O. P., Washington, D. C.: Type specimen of a fossil bison from Huron County, Ohio, and a small collection of mammalian fossils from Vero, Florida, including type material (90688); 5 specimens of mosses from California (90739).

(See also under Prof. O. M. Ball and Dr. Mark Francis.)

HAYMAN, Dr. George T., Doylestown, Pa. (through Dr. Riley D. Moore, Washington, D. C.): Model of an osteopathic treatment table (91270).

HAYNES, Miss Caroline C., Highlands, N. J.: 19 plants from New York (88618, exchange).

HAYWARD, Joseph H. B., Broken Hill, Northern Rhodesia, South Africa (through Dr. A. Hrdlička): Basket from the natives of northern Rhodesia (89780).

HAZZARD, T. G., jr., Narragansett, R. I.: Pipestem of four connected tubes, Germany, 1750 (90887).

HEALEY, Edward, St. Georges, Bermuda (through Thomas S. Creighton): Approximately 300 specimens of mollusks from Cooper's Island, Bermuda (90607); 51 shells from Bermuda and 1 coral (90731).

HEBARD, Morgan. (See under Academy of Natural Sciences.)

HEIGHWAY, A. E., Chula, Va.: Beryl crystal from Amelia County, Va. (89908). Exchange.

HEINTZELMAN, Arthur W., Paris, France (through Frederick Keppel & Co. and John T. Arms): 37 etchings for special exhibition March 27 to April 23, 1926 (90480). Loan.

HELD, Jules, Indianapolis, Ind.: Envelope forwarded from Detroit to Cleveland on the occasion of the first flight made in connection with the contract air mail service of the United States, February 15, 1926 (90660).

HELLER, A. A., Chico, Calif.: 24 plants from California (90891).

HENDERSON, A. D., Belvedere, Alberta, Canada: Skeleton of a hawk owl from Alberta (90707).

HENDERSON, H. J. (See under Virginia Truck Experiment Station.)

HENDLEY, H. W., Washington, D. C.: Adobe brick made at the Pueblo of Isleta, on the Rio Grande, New Mexico (90777).

HENDRICKSON, A. L., Sedro-Woolley, Wash.: Roots of a plant from Washington (89561).

HENNING, Dr. R. E., Washington, D. C.: Album of Alaskan views about Sitka, Alaska, totemic carving on yellow cedar panel, and a mask carved from bone of a whale, from the Tlinkit Indians, Sitka, Alaska (90502); glass labret from the Eskimo of Point Barrow, Alaska, and a horn spoon from the Tlinkit Indians (90766).

HERING, Dr. MARTIN, Berlin, Germany: 154 insects (88112).

HERRERA, Dr. A. L. (See under Mexico, Government of, Direccion de Estudios Biologicos).

HERRERA, Prof. FORTUNATO L., Cuzco, Peru: 210 plants from Peru (88460, 89854, 91379, 91744); 9 specimens of ferns from Peru (88915); 390 specimens of Peruvian ferns collected by Sr. C. Bües (90492); 131 plants (88811, 89237, 90598).

HERTRICH, WILLIAM, San Marino, Calif.: 12 photographs of plants (89576).

HERTWIG, Mrs. R., Washington, D. C.: A small collection of butterflies and moths collected in Guatemala by Louis Thiel (90364).

HESS, FRANK L., Washington, D. C.: 15 specimens illustrating the formation of bauxite, from Bauxite, Ark. (92156).

HICKS, H., Washington, D. C.: Starling (89834).

HIGGINS, H. C., Keyport, N. J.: 9 specimens, 6 species, of Philippine land and fresh-water shells (89898).

HIGGINS, MORTIMER L. J., Hartford, Conn.: 26 miscellaneous insects from Rhodesia (88024); 8 beetles collected at Bulawayo, Rhodesia, by J. S. Carlisle (88009).

HILL, Dr. ARTHUR W. (See under British Government, Royal Botanic Gardens.)

HIORAM, Rev. BROTHER, Guantanamo, Oriente, Cuba: 96 ferns from Cuba (89539).

HITCHCOCK, Prof. A. S. (See Agriculture, Department of, Bureau of Plant Industry, and under J. Gossweiller.)

HOFFMAN, WILLIAM A., Port au Prince, Haiti: Lizards, frogs, and snakes, bird, leech, and insects (87633); 589 insects and some lice from Haiti (89284); a small collections of insects made by the donor in Haiti (90659).

HOLLINS COLLEGE, Zoological Department, Hollins, Va.: 7 specimens of fishes and a nematode worm from Virginia (91818).

HOLMAN, R. F., Snow Camp, N. C.: A shell (91734).

HOLMES, Dr. WILLIAM H., Washington, D. C.: 7 framed photographs of sculptured stelae from prehistoric Maya ruins in Yucatan and Guatemala (89688); ancient Mexican serpentine maskette (92343).

HOLT, ERNEST G., Pittsburgh, Pa.: Right side of mandible of a blackfish from Long Cay, British Honduras (91885).

HOLT LUMBER CO., Oconto, Wisc.: Specimen board of eastern hemlock (91984).

HOLZINGER, Prof. JOHN M., Winona, Minn.: Fern (91298).

HOMBERSLEY, Rev. ARTHUR, Trinidad, B. W. I.: 55 ferns from Trinidad (89638, 91280, 91779).

HOOD, J. DOUGLAS, Rochester, N. Y.: 10 slides of insects, representing 10 species, all represented by paratypes (89857, exchange).

HOPKINS, Dr. ALFRED F., Washington, D. C.: 5 military swords (89816).

(See also under Mrs. Robert R. M. Emmet and Mrs. Katherine Guy Hopkins.)

HOPKINS, Mrs. Katherine Guy, New York City (through Dr. Alfred F. Hopkins): Female costume of the latter part of the nineteenth century (90765).

HORNER, Alfred B., Washington, D. C.: Silver ladle and silver dish cross of the eighteenth century; 35 silver spoons made during the latter part of the eighteenth century (89615, 91417). Loan.

HORTICULTURAL COMMISSIONER, Los Angeles, Calif.: 5 specimens of flies reared from iris in Pomona, California (88874).

HOSFORD, H. Lindley, St. Paul, Minn.: 27 etchings for special exhibition from October 8 to November 3, 1925 (88841); 2 etchings entitled "Haunt of the Heron" and "The Marsh" (89574). Loan.

HOUGH, A. F., Sonora, Calif.: Hammerstone, arrowheads and rejects found near the middle fork of the Stanislaus River, California (87994).

HOUGH, Dr. Walter, Washington, D. C.: Pocket cook stove, Washington, D. C.; wire double gridiron, 1870, Morgantown, W. Va.; pot hooks and chains (6 specimens), Wetzel County, W. Va.; Stonebridge folding lantern, Washington, D. C.; tubular match box and matches, Morgantown, W. Va., and gas lighter and tapers, 1880, Washington, D. C. (88149).

HOUSHOLDER, Vic H., Phoenix, Ariz.: 3 snakes from Phoenix, and worms encysted in flesh from a frog (88402, 88507).

HOWARD, James E., Jeffersonville, Ind.: Model of a Mississippi River steamboat (88973).

HOWARD, Dr. L. O., Washington, D. C.: Original copper plates, 2 etched and 1 engraved, all said to be by Townsend Glover (two of them dated 1852) (90521).

HOWELL, A. B., Washington, D. C.: Skin and skull of a harvest-mouse and the skull of a bat; fish; 19 fishes from the District of Columbia (89027, 90391, 92301).

HOXIE, Prof. W. J., Savannah, Ga. (through Agriculture, Department of, Bureau of Biological Survey): Portion of a human skull belonging to an Indian child between 7 and 9 years of age (88717); potsherds from near Wallella, Whitemarsh Island, Georgia (88094).

HRDLIČKA, Dr. A., Washington, D. C.: Approximately 175 specimens, 37 species of mollusks from Outer Harbor, Adelaide, Australia (88800); a notched bone from Darjeeling, India, and 4 photographs of Australian stone art (89550); 4 baskets from the natives of northern Rhodesia, 44 baskets of the Barotse tribe (negroes) in southern Rhodesia, and vicinity of Gambesia; also 3 baskets from near Bulawayo, southern Rhodesia (89814); 194 stone implements from the vicinity of Victoria Falls, South Africa, and a bone awl from Rhodesia (89903).

(See also under Government Museum, Madras, India; Joseph H. B. Hayward; Dr. I. H. Hutton; Neville Jones; Mrs. S. H. Pownall; Dr. Robert H. Pulleine; and Rollin Winslow.)

HUGHES, George J., Sterlingshire, Scotland: 2 pictorial prints—"Seventy-five" and "The Kirk" (89575).

HUMPHREY, Roger, Cabin John, Md.: 2 lamprey eels from Difficult Run, Va. (91824).

HUNGARIAN NATIONAL MUSEUM, Budapest, Hungary (through Dr. Ferd Filarszky, Director of the Botanical Section): 100 plants (Century 7 of the Flora Hungarica Exsiccata) (91889). Exchange.

HUNT, Herman, Jr., Cape Charles, Va.: Lark from Virginia (90577).

HUTTON, Dr. I. H., Naga Hills, Assam, India (through Dr. A. Hrdlicka): 122 photographs of natives, scenery, and native arts and industries (89712).

HUTTY, Alfred, Charleston, S. C.: Line etching entitled "The Capitol," Washington (89638).

HYLAND, JACK, Washington, D. C.: Approximately 50 specimens of minerals and ores from Bolivia (90615); a large collection of minerals from Bolivia (90692). Deposit.

IHERING, VON, Dr. H., Budigen, Germany: 52 marine and fresh-water shells from South America (90807). Exchange.

ILLINGWORTH, Dr. J. F., Honolulu, Hawaii: 29 insects (85885, 88461).

ILLINOIS STATE NATURAL HISTORY SURVEY DIVISION, Urbana, Ill. (through Dr. T. H. Frison): Paratype of one species of braconid parasite (90475). Exchange.

ILLINOIS, UNIVERSITY OF, Urbana, Ill.: 3 specimens of fresh-water shells from Lake Quamichan, British Columbia (89897).

INDUSTRIAL FIBRE CO. (INC.) THE, Cleveland, Ohio: 25 specimens showing stages in the manufacture of viscose rayon (92198).

INLAND BIRD BANDING ASSOCIATION, Waukegan, Ill. (through W. I. Lyon, president): 2 specimens of flies (bird parasites) (90430).

INSTYTUT NAUK ANTROPOLOGICZNYCH, Warsaw, Poland (through Prof. K. Stolywho, president): Cast of a "Neandeerthaloid" skull from Poland (88907).

INTERIOR DEPARTMENT:

National Park Service, Platt National Park, Sulphur, Okla.: 21 plants from Oklahoma (89928). Grand Canyon National Park, Ariz. (through J. R. Eakin): Invertebrate fossils from Grand Canyon National Park (90495).

Patent Office: 416 models of fire kindlers, lighters, lamps, projectile weapons for killing whales, candles, and musical instruments (88881).

U. S. Geological Survey: Set of glauconite specimens representing a paper entitled "Optical Properties and Chemical Composition of Glauconite," by

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C. S. Ross (88043); specimens of tin ores and chalmersite from the United States and Alaska (88095); two boxes of mineral specimens (88160); Miocene and Oligocene cetacean bones obtained by H. W. Hoots in the San Emigdio foothills of southern California (88191); the reference collection, consisting chiefly of rarer metal minerals, assembled by F. L. Hess (88518); a collection of bones obtained by James Gilluly, Salt Lake Meridian, west side of San Rafael Swell, Utah (89032); fossil fish scales, reptile teeth and bones, obtained by Dr. J. C. F. Siegfriedt, in the Fort Union formation at the Eagle coal mine, Bearcreek, Mont. (89273); rock specimens from Guatemala (89310); geological specimens from New Mexico and California, collected by J. M. Hill (89315); 59 specimens of ores from the Homestake mine, South Dakota (89580); chromite ore from the Kenai Peninsula, and tin ore from Seward Peninsula, Alaska (89621); mammalian remains collected in the Elk Hills oil field, by W. P. Woodring, and part of a skeleton of a Mosasaur from Hempstead County, Ark., collected by Paul Torrey and C. H. Dane (89652); suite of 13 rock specimens to illustrate the igneous formations described in Professional Paper 140-A of the United States Geological Survey (90705); suite of 20 rock specimens to illustrate the formation described in Water Supply Paper 539 of the United States Geological Survey (90706); several small lots of problematic undetermined bones from the marine Triassic of the Hawthorne and Tonopah quad-

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ranges, Nevada (89737); suite of 15 specimens to illustrate the manganese ores and associated rocks described in Bulletin 690–F, United States Geological Survey (90744); specimens of zinc, lead, copper, cobalt, and vanadium minerals of the Goodsprings district, Nevada (90745); 104 specimens, 30 species, of recent mollusks from northern Alaska (collected by Sidney Paige) (89746); specimens from southern Nevada containing carnotite, and sediments from Cretaceous and Tertiary beds of Bighorn Basin, Wyo., collected by D. F. Hewett (90000); collection of rocks from the Quarryville and McCalls Ferry quadrangles, Pennsylvania, made by Mrs. E. B. Knopf and Miss Anna Jones, to be described in a professional paper of the United States Geological Survey (90272); 4 specimens of Cretaceous ammonites described and figured by J. B. Reeside, jr., in Professional Paper 147–B (90432); 181 types, figured specimens, etc., used to illustrate two papers: "Cephalopods from the Cody shale of Oregon Basin, Wyo.," and Cephalopods of the Eagle sandstone and related formations in the Western Interior of the United States," by John B. Reeside, jr. (90816); collections made by R. W. Pack, W. A. English, and W. S. Kew from various quadrangles in California and described in Bulletins 581–D, 721, and Professional Paper 116 (90433); specimen of petrified wood from near Guadalupe, N. Mex. (90481); types, paratypes, and related specimens of fossil algae from the Jurassic Ellis formation of Montana (90643); 9 specimens of phosphate rock

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and associated materials collected in Florida in 1924 (90666); suite of 12 specimens to illustrate the manganese ores described in Bulletin 690–E of the United States Geological Survey (90704); suite of 7 specimens of chromite and associated rocks from the State of Washington, to illustrate part of Bulletin 725–A, United States Geological Survey (90781); suite of 21 specimens of manganese ores from the Siegel, Ely, and Goiconda districts, Nevada, to illustrate Bulletin 710–F, United States Geological Survey (90782); (through W. C. Mansfield) 25 specimens of marine shells from Beaufort, N. C. (90800); miscellaneous potash samples, chiefly from Texas (90817); suite of 63 specimens to illustrate a report by F. L. Ransome on the Colorado River dam sites (90831); thin sections illustrating reports by F. L. Ransome on the Oatman, Miami and Ray, and Tombstone districts, Arizona, (90881); 27 miscellaneous rock specimens (90836); 25 specimens of strontium ores (91301); sample of ozokerite from the vicinity of Soldier Summit, Utah (91335); rock specimens from the vicinity of Melrose, Mont., illustrating Bulletin 780–A (91341); bauxite specimens from Georgia (91342); 2 small lots of Devonian fish remains collected by Paul Torrey in the quarry of the Bradford Pressed Brick Co., near Lewis Run, Pa. (91460); 53 specimens from the Michigan copper district to be described by B. S. Butler in a professional paper of the United States Geological Survey (91870); 12 relief models (92210); 31 boxes of potash samples (92314); collection of Cambrian fossils ob-

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tained in 1925 by J. B. Mertie, jr., on the Yukon River, northeast of Eagle, Alaska (92337). (See also under J. D. Blum and California Academy of Sciences.)

INTERNATIONAL MUTOSCOPE REEL CO., Union Hill, N. Y. (through William Rabkin, president): 6 pieces of motion-picture apparatus, comprising 1 projector, 3 cameras, and 2 magazines (90396). Loan.

INTERNATIONAL PETROLEUM CO. (LTD.). (See under Tropical Oil Co.)

IOWA STATE COLLEGE (through Prof. H. H. Knight): 2 specimens of flies (91763); (through Dr. L. H. Pammel): 140 specimens of plants (91798).

IOWA, THE STATE UNIVERSITY OF, Iowa City, Iowa (through Prof. Dayton Stoner): 2 specimens of moths (88977).

IRELAND, Hosea A., Pleasantville, N. J.: Insect from New Jersey (88770).

ISABELA IRRIGATION SERVICE, Quebradillas, P. R.: Small collection of fossils found during excavations for the Guajataca Reservoir and Dam Site, Porto Rico (90885).

ISRAEL, Dr. William I., La Quemada, Jalisco, Mexico: Specimen of fern from Mexico (88072).

IVES, Prof. J. D., Jefferson City, Tenn.: Small collection of insects and 2 bats from Indian Cave near Jefferson City (89735).

JACKSON GUILDAN VIOLIN CO., Columbus, Ohio (through Armour & Co., Chicago, Ill.): Violin strung to display the kinds of gut strings ordinarily used (92347).

JACKSON, Prof. H. B. (See under Purdue University Agricultural Experiment Station.)

JACKSON, Ralph W., Cambridge, Md.: 11 small mammals (90727).

JACOBSON, Dr. Edward, Fort de Kock, Sumatra: 28 beetles (88907); 195 specimens of insects from Sumatra and Java and 1 from Borneo (90346).

JACOT, Arthur P., Brooklyn, N. Y.: 36 frogs, 12 crabs, and 10 hermit crabs from Shantung, China (88091).

JAEGER, Edmund C., Riverside, Calif.: Plant from Nevada (89305).

JAHN, Dr. Alfredo, Caracas, Venezuela (through Dr. H. Pittier): Plant from Venezuela (89673).

JAMEISON, G. S., Washington, D. C.: Plant (88610).

JAPANESE BEETLE LABORATORY. (See under Agriculture, Department of, Bureau of Entomology.)

JARDIM BOTANICO, Rio de Janeiro, Brazil (through Mrs. Agnes Chase): 5 ferns (92323).

JAY, Peter Augustus, Washington, D. C.: Court robe worn by John Jay, first Chief Justice of the United States Supreme Court, 1789–1795 (84640); framed photograph of the portrait of John Jay by Gilbert Stuart (88631). Loan.

JAYNES, H. A. (See under Agriculture, Department of, Bureau of Entomology.)

JEFFERS, LeRoy. (See under Glenn E. Thompson.)

JEWEL, Lewis E., Rochester, N. Y.: 150 photomicrographs of meteorites (88829).

JEWETT, F. W. (See under American Telephone & Telegraph Co.)

JEWETT, Stanley G., Portland, Oreg.: 3 skeletons of the western grebe from Oregon (92140).

JILLSON, Willard Rouse. (See under Kentucky Geological Survey.)

JOHANSEN, Fritz, Ottawa, Canada: 3 amphipods collected from a lake on the Athabasca River, Alberta, Canada (88002); isopod and a shipworm from Canada (88010); dried skeleton of a polar cod, collected by the northern party of the Canadian Arctic Expedition, 1913–1918

JOHANSEN, Fritz—Continued.
(89695); 3 small crabs and 3 small shrimps from Florida (89704).
(See also under Canadian Government, Department of Marine and Fisheries.)

JOHANSEN, Holger, Summit, Canal Zone: 12 plants from the Canal Zone (90350, 91356); 26 plants (90622).

JOHNSON, Charles, Dry Tortugas, via Key West, Fla.: 22 birds from the Dry Tortugas, Florida (89005).

JOHNSON, C. W. (See under Boston Society of Natural History.)

JOHNSON, Elmer, Chesterton, Ind.: Skull of a skunk (88482).

JOHNSON, James William, Washington, D. C.: A carpenter's brace of early type (90884).

JOHNSON & JOHNSON, New Brunswick, N. J.: 2 panels, one containing 7 cut-out models describing first-aid and illustrating emergency treatment of cuts, fractures, burns, shocks, and wounds, and the other containing 3 cut-out models illustrating bandaging and the dressing of injuries of the upper and lower extremities (91418).

JOHNSTON, Edward C., St. Paul Island, Alaska: 12 plants from Alaska (90632).

JOHNSTON, Dr. George W., Washington, D. C. (through Mrs. George W. Johnston): Pair of Satsuma vases and a large Chinese porcelain bowl; silver pap bowl from Virginia of the period about 1850 (90876, 91706).

JOHNSTON, Dr. J. R., Boston, Mass.: Plant from Honduras (89297).

JONES, Neville, South Rhodesia, South Africa (through Dr. A. Hrdlička): 13 stone implements from southern Rhodesia (89904).

JORDAN, Eric Knight, San Francisco, Calif.: 7 fishes from Hawaii (85396).

JUDAY, Dr. Chancey, Madison, Wis.: Specimens of entomostraca and 15 amphipods from a spring near Madison, Wis., and 25 phyllopods from Alaska (89649).

JUDAY, Dr. Chancey—Continued.

JUDD, Neil M., Washington, D. C.: Living spadefoot toads from Thoreau, N. Mex. (88769).

JULIO, Brother, Cochabamba, Bolivia (through Department of State): 197 plants, 4 lizards, a snake, small collection of insects, a small collection of mollusks, and a barnacle from Bolivia (88243, 92157).

JURICA, Hilary S. (See under St. Procopius College.)

KAIN, Dwight, Washington, D. C.: Portion of a fossil mammal from De Kalb County, Ind., containing a pair of upper incisors (88476).

KAROLITH CORPORATION, THE, Long Island City, N. Y.: 262 specimens illustrating the manufacture and application of casein plastics made from skim milk (90755).

KEELEY, R. L., Lynch, Nebr.: Specimen of fossil club moss (89240).

KEEN, Mrs. Harriet A., Washington, D. C.: A straw hat owned by Henry Clay (92238).

KEISSLER, Dr. Carl. (See under Naturhistorisches Staatsmuseum, Vienna, Austria.)

KELLERS, Lieut. H. C., United States Navy, Hampton Roads, Va.: Bullfrog from Virginia (87250).
(See also under Doctor Goelam, and Navy Department.)

KELLOGG, Remington. (See under Smithsonian Institution, National Museum, collected by members of the staff.)

KELLY, W. T., Chicago, Ill.: Section of rail used on the first lines of the Louisville & Nashville Railroad (91383).

KELSEY, Mrs. A. Warren, Philadelphia, Pa.: Hat cord worn during the period of the Civil War by Maj. Gen. C. C. Washburn, United States Volunteers, and an engraved map of Worcester County, England, made during the latter part of the sixteenth century (89810).

KELSEY, Erwin B., New Haven, Conn.: 31 specimens of chemicals for addition to the Loeb collection of chemical types (91667).

KENNEDY, D. S., Passagrille, Fla.: Partial skull of a typical male Florida Indian (91414).

KENTUCKY GEOLOGICAL SURVEY, THE, Frankfort, Ky. (through Willard Rouse Jillson, State geologist): Approximately 35 specimens of fossil land shells collected by C. H. Richardson at Bellevue, Campbell County, Ky.; Covington, Kenton County, Ky., and Crane Run, Jefferson County, Ky. (88779).

KEPPEL & CO., FREDERICK. (See under Arthur W. Heintzelman.)

KERBEL GARAGE, Spencer, Nebr.: Parts of both lower jaws and fragmentary teeth of a mastodon (90814).

KEYSER, E. W., Washington, D. C.: Small collection of ethnological specimens from Java, the Philippines, Africa, and the United States (89812). Exchange.

KIDDER, Mrs. Anna W. Berkeley, Calif.: 11 plants from California (90768, 91422). Exchange.

KING, B. H., Fort Meade, Fla.: Shell (90343).

KING, Dr. C. G., Pittsburgh, Pa.: Seeds and oil of a Brazilian tree (91884).

KING, Mrs. Harry, Washington, D. C.: 17 specimens of Indian pottery, an openwork basket, and a wooden spoon (89280).

KING, Mrs. Isabella G.: Bronze vase of the latter part of the nineteenth century (91775). Bequest.

KINTZ, A. W., Washington, D. C.: Beads from a cache in a cave located on the Rappahannock River, Westmoreland County, Virginia, 8 miles from Washington's birthplace (88016).

KINZIE, Gilman, Fort Myers, Fla.: 2 ancient carved wooden objects, evidently taken from a swamp (89270).

KIRCHBAUM, Maj. Carroll E., Upper Montclair, N. J.: German military helmet of the period of the World War (89660).

KIRK, Dr. Edwin, Washington, D. C.: Baxter oil print, 1 pen and ink drawing (91802). Loan.

KIRKWOOD, Prof. J. E., Missoula, Mont.: Specimen of cactus (89587).

KLEE, Karl R., Washington, D. C.: Approximately 500 fossil animals and plants (88085).

KLETSCH, Ernest, Washington, D. C.: Old engraved wood blocks which came from an old printer family in Leipzig (89252).

KNIGHT, Prof. H. H. (See under Iowa State College.)

KNULL, J. N., Harrisburg, Pa.: 114 specimens of unidentified Hymenoptera (88731, 89279).

KOBBE, Frederick W., New York City: Specimen of fern from New York (91377).

KOEHRING CO., Milwaukee, Wis.: Complete working model of the Koehring paver 13B, a concrete-mixing machine used in paving streets with concrete (89382).

KOELZ, Dr. W., Ann Arbor, Mich.: 2 trunk skeletons of the gyrfalcon from Greenland (90617).

KOFOID, Dr. C. A. (See under California, University of.)

KORFF, Miss Barbara, Ashland, N. H.: 2 newts from Ashland (88076).

KOTO, Prof B. (See under Geological Institute, Imperial University, Tokyo, Japan.)

KRAUSKOPF, Dr. Francis C., Madison, Wis.: 6 chemicals for the Loeb collection of chemical types (89278).

KROYDON CO., THE, Hilton, N. J.: 19 specimens showing the manufacture of golf clubs (91482).

KRUGER, Mrs. Theodore, New York City: Plant (88200).

KRYNITSKY, Master John I., Washington, D. C.: An abnormal egg of a domestic fowl from Virginia (91868).

KUGLER, Dr. H. G., Puerto Cabello, Venezuela (through Dr. W. P. Woodring): A collection of late Tertiary fossils from Trinidad (90473).

KUMMEROW, E., Brandenburg (Havel), Germany: 42 species of Ordovician and Silurian ostracods from Germany (88005). Exchange.

LAING, George S., Santiago, Chile: Shoulder insignia of the 89th Division American Expeditionary Forces, during the World War (89098).

LANGRIDGE, J., Wellington, New Zealand: 9 eggs and 1 skeleton of a bird from New Zealand (88751). Exchange.

LANGWORTHY, Dr. Charles F. (See under Mrs. John Willard.)

LANKESTER, C. H., Cartago, Costa Rica: 68 plants from Costa Rica (88173, 88735, 92322).

LAWRENCE AND CO. (See under Pacific Mills, Lawrence, Mass.)

LEACH, J. G. (See under Minnesota, University of.)

LECOMTE, Dr. H. (See under Museum d'Histoire Naturelle, Botanique, Paris, France.)

LEDING, A. R., Sacaton, Ariz.: 2 plants from Arizona (90689); plant and photograph of a plant (91378).

LEIM, A. H., St. Andrews, New Brunswick, Canada: 2 specimens of amphipods, one representing a new genus, both collected at Campobello Island, Bay of Fundy, Nova Scotia (88702).

LENNON, Mrs. Mary, N. Y. City: English "Tower" musket of the period of the Civil War (89002).

LEON, Bev. Bro., Havana, Cuba: 142 plants collected in Querétaro, Mexico, by Bro. Basile (92321).

LEONARD, Prof. A. G. (See under North Dakota, University of.)

LEONARD, Clifford Shattuck, New Haven, Conn.: 2 specimens of chemicals for Loeb collection of chemical types (88683).

LEONARD, Emery C., Washington, D. C.: 107 plants from Ohio and 24 from Elk Neck, Maryland (88946, 89033).

LEUDERWALDT, H. (See under Museu Paulista, São Paulo.)

LEVY, Max, Philadelphia, Pa. (through Mr. Howard S. Levy): An Ives Kromskop; 5 Kromegrams, and a handbook (London, 1894) (92240), Loan.

LEWIS, Rev. C. S., Trenton, N. J.: 4 ferns (86347).

LEWIS, Miss Stella M., Watertown, N. Y.: 2 ferns from New York (88738, 89264).

LEWTON, F. L., Washington, D. C.: Specimen of bird (red-eyed vireo) collected locally, and 2 plants from Africa (88529, 89856).

LIEBERMAN, Miss L., Washington, D. C.: Italian faience platter with relief figures (91776).

LIGON, J. Stokley, Fort Stockton, Tex.: Set of 3 eggs of the spotted owl, from New Mexico (88009); skeleton of a hawk from Texas (90686).

LILJESTRAND, Dr. S. H., Chengtu, Szechuen, China: 12 plants from China (86466).

LILLY, William, N. Y. City: 5 specimens of chalk and flint from the island of Sjaelland, Denmark (89701).

LINCOLN, Dr. F. C., Washington, D. C.: 18 mollusks from Beaver Islands, Michigan (88989).

LINK, Theodore A., La Porte, Ind.: Approximately 1,300 mollusks, 11 barnacles, 25 corals, and about 125 specimens of fossils from South America (86091); 14 specimens, 8 species, of land and fresh-water mollusks from the United States of Colombia (90715).

LINN, Dr. H. H., Kalamazoo, Mich.: 8 psychid cases from India (91461).

LITTMANN, Edwin Rogers, Terre Haute, Ind.: Sample of chemical for the Leob collection of chemical types (88810).

LLOYD, Prof. F. E., Montreal, Canada: 3 plants (88180, 89304).

LONG, Charles, Columbus, Ohio: Approximately 200 fresh-water mollusks from Ohio (90464).

LONG, The Misses, Washington, D. C.: Pair of Chinese hair ornaments brought from China in 1835 by Capt. Benjamin Bradford, son of John Bradford, Esq., of Mount Hope, R. I. (88929); candelabrum, 2 candlesticks, 2 china plates, tile, fan, and a ribbon belt, also 2 mahogany ottomans (89733). Loan.

LOS ANGELES COUNTY HORTICULTURAL COMMISSIONER, Los Angeles, Calif. (through H. M. Armitage): 7 specimens of flies (90484).

LUCAS, A. M., St. Louis, Mo. (through Prof. Harry M. Miller, jr.): 8 crustaceans from Woods Hole, Mass. (89282).

LUKE, Monte, Sydney, Australia: 4 portraits and 2 landscape prints (90770).

LUNDBECK, Dr. Will, Copenhagen, Denmark: 2 specimens of flies and 2 specimens of pupae (87761). Exchange.

LUSBY, G. B., Olivet, Md.: 2 crabs (89532).

LYON, Dr. Marcus W., Jr., South Bend, Ind.: 4 ferns from Indiana (89692).

(See also under Dr. H. T. Montgomery.)

LYON, W. I. (See under Inland Bird Banding Association.)

LYONNET, Sr. Don Ernest, Mixcoac, D. F., Mexico: 15 plants from Mexico (90354).

McADOO, Hon. William, Blue Hill, Me.: Plant from Maine (88512).

McATEE, W. L., Washington, D. C.: 23 unidentified insects, of which 21 are Diptera (91896).

McCAUSLAND, Thomas G., Philipsburg, Pa.: Cast of a seed of a fernlike plant (89502).

McCLELLAN, George B., Washington, D. C.: Confederate flag captured at Philippi, W. Va., June 3, 1861, by Company E, 7th Indiana Volunteers (91395).

McCULLOCH, Walter S., Albany, N. Y.: 2 United States flags flown on the locomotive which drew the funeral train of President Abraham Lincoln from Albany to Utica in April, 1865 (90668).

McCULLOCH, Walter S.—Continued.

MacCURDY, Dr. George Grant, New Haven, Conn.: 2 paleolithic stone implements from the surface at Sambariyeh, near Mutailah, headwaters of the Jordan, Palestine (92141).

(See also under Archaeological Society of Washington.)

McEWEN, Alfred, New York City: 5 microengravings and 6 microphotographs of microengravings and the original lead-pencil writing of a letter, of which a microengraving had previously been supplied and 2 photographs of the pantograph (89548).

McGRATH, John. (See under Treasury Department.)

McGREGOR, A. G., Chicago, Ill.: Book entitled "U. S. Patent Office; Interference No. 17403, James W. McDonough *v.* John Joly" (91855).

McGREGOR, R. C. (See under Philippine Islands, Government of.)

McGUIRE, James C., New York City: Ivory-headed cane made from a piece of the U. S. frigate *Constitution* and presented by Commodore J. D. Elliott to President James Madison; also 2 documents describing the history of the cane (89744). Loan.

MACKAY & DIPPIE (LTD.), Calgary, Alberta, Canada: Fossil shell from Alberta (89564).

McKELWAY, Dr. George I., Washington, D. C.: British saber of the latter part of the eighteenth century (90441).

MALLOCH, J. R., Washington, D. C.: Specimen of fly (89274).

McNEILL, Frank A. (See under Australian Museum, Sydney, Australia.)

MANDA, Robert F., West Orange, N. J.: 3 plants (cacti) from Oklahoma (91756). Exchange.

MANSFIELD, W. C. (See under Interior Department, United States Geological Survey.)

MARCUCCI, Sr. Don Francisco, Moyuta, Guatemala: Seeds of plants (88135, 88872).

McRAE, John, Coatbridge, Scotland: 3 bromoils, "The Arch," "Ebb-tide," and "Corner-Old World Garden" (88003).

MARINE FISH HATCHERY AND BIOLOGICAL STATION, Dunedin, New Zealand (through Prof. M. W. Young): Marine plankton, mostly crustaceans, tunicates, and 4 fishes collected off the coast of New Zealand in the vicinity of the marine station (90716).

MARLOTH, R., Cape Town, Union of South Africa: 12 plant bulbs (87906). Exchange.

MARSHALL, Byron C., Imboden, Ark.: 5 insects; 13 isopods from Taylor Spring, southwest of Imboden; head of mongrel buffalo fish; small collection of insects; 39 amphipods and 30 isopods all from York Spring, 8 insects and 4 spiders from Arkansas; 50 amphipods and 75 isopods collected by the donor near Imboden; 36 specimens of blind subterranean isopods collected at Imboden; 50 blind subterranean isopods from Imboden; 17 insects from Imboden; 2 camel crickets from Arkansas; cricket from Imboden; 22 plants from Arkansas; 10 insects, including 2 crickets and 8 roaches; 3 insects, Hemiptera, and 100 amphipods; 4 insects from Arkansas (87427, 87985, 88102, 88190, 88223, 88524, 88694, 88900, 89042, 89754, 89824, 89869, 90431, 90593, 91334).

MARSHALL, Ernest B., Laurel, Md.: 6 birds, 17 skulls and 3 skins of small mammals, and an opossum; all from Maryland (89596, 90501, 90638, 91710, 91877).

MARSHALL, George, Washington, D. C.: Plant; 2 barred owls and a short-eared owl, all from Maryland (88171, 89593, 89747); 3 specimens of Bonaparte's gull (91746).

MARSHALL, Henry R., Wilson, N. C.: Bird (surf scoter), and 5 birds from North Carolina (90500, 91025); skulls of 5 muskrats (90640).

MARTINEZ, Sr. Don Maximino, Mexico, Mexico: 180 plants (90001). (See also under Mexico, Government of.)

MARYLAND, UNIVERSITY OF, College Park, Md. (through Ernest N. Cory, State entomologist): 4 specimens of black flies (88038).

MASARYK UNIVERSITY, BOTANICAL INSTITUTE OF, Brno, Czechoslovakia (through Dr. J. Podpera): 100 specimens (Century I) of plants from Czechoslovakia (89686). Exchange.

MASON, Henry H., East Pensacola, Fla.: 32 specimens of fossil plants and a collection of Indian artifacts (89843).

MASSACHUSETTS MOHAIR PLUSH CO., Boston, Mass.: 9 samples of mohair pile upholstery fabrics (88049).

MATHEWS, Frank P., New York City: Nesting of a bird from Haiti (88924).

MAYER, Dr. Emil, Vienna, Austria: 70 bromoils and bromoil transfers (89626). Loan.

MEINSHAUSEN, George, Norwood, Ohio: 11 wood engravings (88170).

MELANDER, Prof. A. L., Pullman, Wash.: 4 flies (89634). Exchange.

MELBOURNE TECHNICAL SCHOOL, Melbourne, Victoria, Australia: Ordovician, Silurian and Tertiary fossils, and recent shells from Australia (84566). Exchange.

MELLON INSTITUTE, THE, Pittsburgh, Pa.: Specimen of synthetic methanol and 6 specimens of derivatives therefrom (88006).

MERRILL, E. D. (See under California, University of.)

MERRILL, Miss Katharine, New York City: 78 etchings for special exhibition (90405). Loan.

METCALF, Dr. MAYNARD M., Baltimore, Md.: 128 frogs, a spider, and some fishes from South America (91668).

MEXICO, GOVERNMENT OF:

Direccion de Estudios Biologicos (through Maximino Martinez): Plant from Socorro Island, Mexico (88491); 70 plants collected on the islands off the western coast of Mexico (89266, exchange); (through A. L. Herrera) crayfish from the River Cupatitzio, State of Michoacan, Mexico (90633).

Department of Public Education (through Manuel C. Tellez, Ambassador of Mexico, Washington, D. C.): Bronze medal commemorating the celebration of the first centennial of the National Museum of Mexico (89708).

MICHELSON, Dr. TRUMAN, Washington, D. C.: Human skull found in the Sangell Valley, Oreg., by David B. Turner, and 3 complete skulls and 6 lower jaws of Hawaiians (91751).

MICHIGAN, UNIVERSITY OF, Ann Arbor, Mich. (through Norman A. Wood): One alcoholic and one body in alcohol of the Kirtland's warbler from Michigan (88064); (through Prof. G. M. Ehlers) approximately 100 specimens of Middle Devonian fossils from Ohio, and Mississippian fossils from southern Kentucky 150 specimens representing 30 species of Mississippian fossils from Kentucky (89765, 90581). Exchange.

MILLARD, Dr. F. P., Toronto, Ontario, Canada (through Dr. Riley D. Moore, Washington, D. C.): Copy of Millard's "Applied Anatomy of the Lymphatics" for the exhibit illustrating the principles of osteopathy (88870).

MILLER, GERRIT S., Jr., Washington, D. C.: Small collection of potsherds, etc., from Barbados, B. W. I. (88930).

MILLER, Prof. HARRY M., Jr. (See under A. M. Lucas.)

MILLER, Prof. R. C. (See under Washington, University of.)

MILWAUKEE, WIS., SEWERAGE COMMISSION OF THE CITY OF: 13 photographic views and a booklet entitled "Description of Milwaukee's Activated Sludge Sewage Disposal Project" for exhibition with the sewage-disposal model presented by Auer (Inc.), of Milwaukee (91420).

MINER LABORATORIES, THE, Chicago, Ill.: A series of 39 specimens pertaining to the manufacture of furfural, etc. (89016).

MINNESOTA, UNIVERSITY OF, Minneapolis, Minn. (through J. G. Leach): 4 specimens of flies, reared from diseased celery plants (88863); (through Dr. Frederick V. Coville) 5 plants (91347, exchange); plant (91439, exchange).

MINTON, Dr. HENRY B. (See under Dr. J. Perry Seward.)

MIRGUET, C. E., Washington, D. C.: Skeleton of a bat (88172).

MISER, H. D., Nashville, Tenn.: Ordovician and Silurian fossils from Tennessee (90767).

MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: 3 plants (89844, 90365). Exchange.

MITCHELL, H. W. S., Anuradhapura, Ceylon (through Dr. Casey A. Wood): 2 birds, pheasant-tailed jacanas, from Ceylon (90832).

MITCHELL, T. B. (See under North Carolina State College of Agriculture and Engineering.)

MIYAZAKI COLLEGE OF AGRICULTURE, Miyazaki-shi, Japan: 170 plants from Japan (92308). Exchange.

MOELLER, A. F., 10 plants (88044, 88183).

MOGLIE, A. F., Washington, D. C.: 52 specimens showing the manufacture of a violin (92339).

MOND NICKEL CO. (LTD.), THE, London, England: A nickel medal commemorating the twenty-fifth anniversary of the Mond Nickel Co., 1925 (90753).

MONROE, Percy R., Lynchburg, Va.: plant (89269); plant (89301). Exchange.

MONSERRATTE, Sr. J. Gratereol, Caracas, Venezuela: Spider (89802).

MONTGOMERY, Dr. H. T., South Bend, Ind. (through Dr. M. W. Lyon, jr.): 7 shells (89823).

MONTREAL, UNIVERSITY OF, Montreal, Canada (through Brother Victorin): 440 plants from Canada (91292, exchange).

MOORE, D. McFarlan, Harrison, N. J.: 3 pieces of historical electrical apparatus—a vacuum tube, a vacuum-tube vibrator, and a telorama lamp (89571); a group of seven pieces of apparatus and 4 photographs illustrating stages in the development of the Moore gaseous and vacuum lamps (89990).

MOORE, Dr. Riley D. (See under American Osteopathic Association; Dr. George T. Hayman; Dr. F. P. Millard; A. T. Still Research Institute; Dr. Joseph Swart; Dr. G. C. Taplin; Dr. D. L. Tasker; Dr. William West.)

MORELLE, Capt. C. J., Washington, D. C.: Engraving by J. C. Armytage (89552).

MOREY, Mrs. Milo, Gainesville, Fla.: Mounted black squirrel (89693).

MORGAN, Brent M., Washington, D. C.: 5 bird skins from Neabsco, Virginia (89919, 92266).

MORGANS, A. E., Perth, Australia: 2 eggs of an emu from western Australia (89902).

MORLEY, Dr. Sylvanus G., Washington, D. C.: Photo enlargement of one of the Atlantean figures which supported the alter of the Temple of the Warriors at Chichen Itza (89763).

(See also under Sr. Emilio Mosonyi.)

MORRILL, Dr. A. W., Los Angeles, Calif.: 5 grasshoppers (88845).

MOSES, Mrs. Radford, Washington, D. C.: Letter addressed to Dr. Henry King and bearing New York and St. Louis postmarks of 1843 (88698).

MOSONYI, Sr. Emilio, Mexico City, Mexico (through Dr. Sylvanus G. Morley, Washington, D. C.): A jadeite carving probably from Oaxaca, southern Mexico (89553).

MOTION PICTURE PRODUCERS AND DISTRIBUTORS OF AMERICA (INC.). (See under R. L. Giffan, and Mrs. Eberhardt Schneider.)

MOULTON, Dudley, San Francisco, Calif.: 25 slides representing 21 species of Thysanoptera (91865).

MULFORD BIOLOGICAL EXPLORATION OF THE AMAZON BASIN (through Dr. H. H. Rusby, New York City): 369 plants from South America (89685).

MULFORD CO., H. K., Philadelphia, Pa.: Replica of the gold medal presented by the H. K. Mulford Co. to the 18 drivers of the dog teams which carried diphtheria antitoxin from Nenana to Nome, Alaska, January–February, 1925, to relieve the scourge of diphtheria then raging in Nome (88822).

MULLAN, John, Washington, D. C.: Bat (88182).

MUNDER, Norman T. A., Baltimore, Md.: A broadside entitled "Wish," with a portrait of Benjamin Franklin, printed from wood blocks, engraved by Percy Grassby (89835); book, "The Story of Alexander Brown & Sons," an example of letterpress printing (90833).

MUNRO, Dana G., Panama City, Panama: Mounted specimen of a bird (Quetzel) from Guatemala (88176).

MUNZ, Dr. Philip A. (See under Pomona College, Claremont, Calif.)

MURIE, O. J., Washington, D. C.: 3 feet of willow ptarmigan from Alaska (90837).

MUSEO CIVICO DI STORIA NATURALE, Milan, Italy: 7 crabs from Italy (89832). Exchange.

MUSEO NACIONAL, Buenos Aires, Argentina (through Prof. Doello-Jurado, Director): A fragment of the Santa Isabel meteoric stone (89459). Exchange.

MUSEU NACIONAL, Rio de Janiero, Brazil: 13 specimens of plants from Brazil (89707). Exchange.

MUSEU PAULISTA, Sao Paulo, Brazil: 137 lots of crustaceans, 3 lots of worms, 1 lot of coelentrates, and 1 lot of fishes (91435); (through H. Leuderwaldt) 5 specimens, 3 species, of marine and fresh-water mollusks from Brazil (91689).

MUSEUM, THE, Adelaide, South Australia: Complete Australian male skeleton with skull; 2 valuable Australian skulls, and 3 rare casts of Australian jaws (90358). Exchange.

MUSEUM D'HISTORIE NATURELLE, BOTANIQUE, Paris, France (through Dr. H. Lecomte, director): 2 photographs of West Indian ferns (90409). Exchange.

MYER, CATHERINE WALDEN (through National Savings & Trust Co., Washington, D. C.): Collection of Dresden and plaster figures, plaques, steins, candlesticks, lamp, andirons, bells, etc. (87896). Bequest.

MYER, Miss GERTRUDE, Washington, D. C.: 464 casts of ancient cameos (89859). Exchange.

NANKING, UNIVERSITY OF, Department of Botany, Nanking, China (through Albert N. Steward): Plant from China (90390). Exchange.

NASH, JOHN HENRY, San Francisco, Calif.: 2 books, examples of letter press printing (91838).

NATIONAL CHILD WELFARE ASSOCIATION (INC.), New York City: 65 colored charts emphasizing phases of child welfare (88129).

NATIONAL DAIRY COUNCIL, Chicago, Ill.: A mechanical device stressing the necessity of clean and Pasteurized milk (90691).

NATIONAL GEOGRAPHIC SOCIETY, Washington, D. C.: Fern from Ceylon (87977); photographic copy of a detailed drawing of the United States Navy airship *Shenandoah* (88127); miscellaneous natural history specimens collected by Dr. Walter Koelz while on the MacMillan Expedition, comprising birds' eggs, echinoderms, mollusks, plants, insects, mammals, and fishes (89698); miscellaneous archeological material collected during the society's explorations of 1925 in and near Chaco Canyon, northwestern New Mexico, together with additional specimens collected by Monroe Amsden, leader of the society's secondary expedition of 1925, from ruins 1 to 16, Kiminioli Valley, south of the Chaco (89749); fragments of matting and netting and fragment of an incised wooden club, collected in 1924 from caverns near Carlsbad, N. Mex., for the society by Dr. Willis T. Lee (90505); small collection of skeletal material secured during the society's explorations at Pueblo del Arroyo, N. Mex. (91325); (through Franklin L. Fisher) photograph of a plant known as the "Traveler's Tree" (91807).

NATIONAL HIGHWAYS ASSOCIATION, Bass River, Cape Cod, Mass.: A United States touring map showing national forests, parks, etc., and the principal highways connecting them (91754).

NATIONAL MUSEUM, THE, Melbourne, Victoria, Australia: 6 photographs of Australian skulls (89687).

NATIONAL SAVINGS & TRUST CO., THE, Washington, D. C. (See under Catherine Walden Myer.)

NATURHISTORISCHES SAMMLUNG DES BAYERISCHEN STAATS, ENTOMOLOGISCHE ABTEILUNG, Munich, Germany: 26 ichneumon-flies representing 24 species (91894). Exchange.

NATURHISTORISCHES STAATSMUSEUM, Vienna, Austria (through Dr. Carl Keissler): 313 plants col-

NATURHISTORISCHES STAATS-MUSEUM—Continued.
lected in China by Dr. H. F. von Handel-Mazzetti (89713); 100 specimens of lower cryptogams, Century 29 (88876). Exchange.

NAVY DEPARTMENT:
Bureau of Aeronautics: 2 photographs of Berliner Helicopter, of 1925 (90878).
Eclipse Expedition to Sumatra 1925 (through Lieut. H. C. Kellers, U. S. Navy); 700 crustaceans, rich collections of townet material and 14 lots of beach material; 250 specimens of land, fresh-water and marine shells, 10 corals, 1,316 insects, 843 fishes, 23 mammals, 335 reptiles and batrachians and 53 birds (87355).
Through California Academy of Sciences, San Francisco, Calif.: 11 specimens of plants, collected by the California Academy of Sciences Expedition to Revillagigedos Islands; also 154 specimens, 25 species of land shells from Tres Marias, Socorro, and Clarion Islands, collected by the same expedition (86187, 90738).

NELSON, Dr. E. W., Washington, D. C.: 4 fresh-water shells from Florida (91673).

NETHERLANDS, THE HAGUE, Legation of the United States of America. (See under Miss Henriette Reiger.)

NEW, Mrs. HARRY S., Washington, D. C.: Specimen of albino gentian from Michigan (88756).

NEWCOMEN SOCIETY, THE, London, England (through H. W. Dickinson, honorary secretary); Copy of an engraving, dated 1717, of an atmospheric steam engine, antedating by two years the earliest document previously known relative to the steam engine (90631).

NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: 3 plants from Panama and Mexico (87980); 562 plants (88042, 88195, 88256, 88836, 88873, 88973, 89007, 89319, 89536, 89585, 89715, 89756, 89815, 89890, 90606, 90783, 91372, 91655, 91678, 91696, 91797); 67 plants from Cuba and Porto Rico (88239); 3 ferns from the West Indies (88505); 75 plants and photograph of a plant all from Porto Rico (88627, 90356, 90747, 91285, 91700, 92305); 11 plants from Trinidad (88862, 90415); 4 plants from St. Croix (89853, 90736); 15 ferns from the eastern part of the United States (89993); 12 specimens and 1 photograph of plants (90376); 2 ferns from Florida (90710); plant from Jamaica (91695). Exchange.

NICKELS, C. B. (See under Clemson Agricultural College.)

NICOLAY, ALAN S., Upper Montclair, N. J.: 10 bettles (90636).

NIEMEYER, Miss E. H., Washington, D. C.: Plant from Maryland (88882) 14 plants from Colombia (90773).

NININGER, Prof. H. H., McPherson, Kans.: Portion of an 85-pound pallasite from Brenham, Kiowa County, Kansas (89991, exchange); lichen from the vicinity of Kingsville, Texas (90874).

NOBLE, Mrs. HENRY B., Washington, D. C. (through Miss Mary Worthington Birnie): Silver necklace, probably from the Caucasus, collected in Jericho; flounce of rose Point Brussels lace, and a collar and 2 cuffs of Point de Venise lace (92344).

NOLTE, Rev. FELIX, Chicago, Ill.: 115 plants from Kansas (87923).

NORTE, ALEX L., Lund, Utah: Mineral from Iron County, Utah (88888).

NORTH AMERICAN LACE CO., Philadelphia, Pa.: 23 specimens of lace flouncings and allover lace made on a Levers lace loom (91882).

NORTH CAROLINA DEPARTMENT OF AGRICULTURE, division of entomology, Raleigh, N. C.: (through J. C. Crawford): 14 specimens, 7

NORTH CAROLINA DEPARTMENT OF AGRICULTURE—Continued. species, of named bees (90468, exchange); (through C. S. Brimley): 2 flies (90830).

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING, Raleigh, N. C. (through T. B. Mitchell): 2 bees representing types of 2 new species (91705).

NORTH DAKOTA, UNIVERSITY OF, Grand Forks, N. Dak. (through Prof. A. G. Leonard): An undetermined fossil specimen from La Moure County, N. Dak. (87541).

NOTMAN, Howard, Brooklyn, N. Y.: 2 beetles (89917).

OBERBRUNNER, Mrs. Ethel D., Cleveland, Ohio: Silver scudo of the Republic of Lucca, coined in 1754 (92262).

OFFICE OF PUBLIC BUILDINGS AND PUBLIC PARKS OF THE NATIONAL CAPITAL, Washington, D. C.: Wood specimens of silver bell and white mulberry (89540, 91857).

OHIO AGRICULTURAL EXPERIMENT STATION, Wooster, Ohio: 12 insects, and a small collection of their larvae, reared from heads of Canada thistle, by Miss Freda Detmers (88729).

OKLAHOMA, UNIVERSITY OF, Norman, Okla. (through Dr. A. I. Ortenburger): 6 turtles collected by Doctor Ortenburger in Oklahoma and Texas (88999).

OKMULGEE HIGH SCHOOL, science department, Okmulgee, Okla. (through Miss Edith R. Force): 167 fishes (90861).

OLDROYD, Mrs. T. S., Stanford University, Calif.: 6 hermit crabs collected on the beach about 20 miles north of Newport, Oreg. (88975); 360 specimens of land, fresh-water, and marine shells from California, Mexico, South America, and other localities (89242, exchange); 123 specimens of land shells from Idaho and Utah (90414).

OLMSTED, Miss Helen, Washington, D. C.: A bird, the Brown Creeper (89595).

OLSSON, Dr. Alex A., Negritos, Peru: 75 specimens, 46 species, of marine mollusks (pyramidellids and melanellids), including the types of 29 new species described by Doctor Bartsch (90698).

O'NEILL, Rev. Hugh, St. Leo, Fla.: 467 plants from Florida and Colombia (89235, 90403, 91509).

d'ORCHYMENT, Monsieur A., Mont-St. Amand (Gand), Belgium: 19 beetles, 4 of which are represented by paratypes (89061, exchange).

ORCUTT, C. R., El Paso, Tex.: Plant from Mexico; approximately 2,050 mollusks, including types of many new species, and 1 plant; 225 plants from Mexico; approximately 400 mollusks from Rio Pecos drift, Fort Sumner, N. Mex.; shell from Rowe, N. Mex., and a turtle (88854, 89286, 89847, 91894, 92342).

ORR, Arthur, Lyon Park, Va.: Skeleton of a collie dog (90639).

ORTEGA, James L., Yountville, Calif.: 3 worms from birds (89189).

ORTEGA, Sr. Ing. Jesús G., Mazatlan, Sinaloa, Mexico: 6 plants and 20 photographs of plants (88837); 50 living plants (88890); 282 plants from Mexico (89907).

ORTENBURGER, Dr. A. I. (See under Oklahoma, University of.)

ORTON, Prof. W. A. (See under Tropical Plant Research Foundation, Washington, D. C.)

OSTERHOUT, George E., Windsor, Colo.: Plant from Colorado (89588). Exchange.

PACIFIC MILLS, Lawrence, Mass. (through Lawrence & Co.): 106 specimens of cotton fabrics showing methods of bleaching, printing, dyeing, and finishing, and different put-ups of cotton goods as sent out to the trade; also working models of a carding machine and a napper, a full-sized napping roll, a steel die, and a mill for preparing printing rolls, a full-sized engraved copper

PACIFIC MILLS—Continued.
printing roll, 7 reel boards for putting up fabrics, and 41 photo transparencies illustrating cotton production and manufacture (89581); 8 coal-tar dyes and 4 specimens of coal-tar intermediates to illustrate the principal methods of dyeing cotton fabrics; also 8 specimens of cotton and cotton-rayon, printed and dyed drapery fabrics, and 2 dozen each of cotton sheets and pillow cases (92318).

PAINE LUMBER CO. (LTD.), Oshkosh, Wis.: 2 veneered doors, and 3 African mahogany cases complete with plate glass, slate bases, etc., for reinstallation of doors formerly contributed (90742).

PALACHE, Prof. CHARLES. (See under Harvard University, department of mineralogy and petrography.)

PAMMEL, Dr. L. H. (See under Iowa State College.)

PANAMA CANAL, THE, Gatun, Canal Zone (through Dr. D. P. Curry): A small collection of mosquitoes (adults and larvæ) from Panama (90840).

PARKE, DAVIS & CO., Detroit, Mich. (through O. A. Farwell): 22 plants from Michigan (88967). Exchange.

PARKER, Prof. J. B., Washington, D. C.: 16 specimens of flies found in the nests of wasps in San Francisco, Calif. (88834).

PARKER, Dr. R. R., Hamilton, Mont.: 6 specimens of fly puparia (88956). Exchange.

PARRITT, H. N., "Berrynarbor," Newlands Road, Rottingdean, Sussex, England: Large spider crab from Japan (85471). Exchange.

PATTON, T. C., Greenville, Miss.: Small copper plaque engraved with a talisman, and a copper portrait medal of King Edward VII and Queen Alexandra of Great Britain (88648).

PAUL, BROTHER, Barranquilla, Colombia: 91 plants from Colombia (89827, 90759).

PAYNE, T. E., Calca, Peru (through Agriculture, United States Department of, Office of Foreign Seed and Plant Introduction): A scarf woven from hand-spun natural color alpaca wool (91850).

PAYSON, Prof. EDWIN B., Laramie, Wyo.: 6 ferns (91370).

PEABODY MUSEUM OF NATURAL HISTORY, Yale University, New Haven, Conn.: 8 barrels of Utica shale from Rome, New York (89579, exchange); slab from the Estherville, Emmet County, Iowa, meteoric stony-iron (90357, exchange); decorated human skull from New Guinea (90651).

PERKINS INSTITUTION FOR THE BLIND, Watertown, Mass.: Line type and Braille type used in printing for the blind (88527).

PERKINS, Mrs. M. N., Perkinsville, Ariz.: Skull of an Indian woman (89999).

PERRY, CURTIS A., Bridgton, Me.: 2 mollusks from Hawaii (88695); marine shells from Sanibel Island, and a marine shell from Florida (90489, 90735).

PETTIGREW, R. F., Sioux Falls, S. Dak.: 9 fossil logs from the Fossil Forest, Arizona (87629, 91458). Exchange.

PHILIPPINE ISLANDS, GOVERNMENT OF:
Bureau of Forestry (through Harry T. Edwards, U. S. Department of Agriculture, Washington, D. C.): 5 samples of bast fibers and 22 articles made from Philippine fibers (89877).
Bureau of Science, Manila (through R. C. McGregor): 5 small collections of miscellaneous insects from the Philippine Islands (87869, 88703, 90374, 90743, 91860); small collection of miscellaneous insects and a shell (88080); 83 miscellaneous insects from the Philippines (91699).

PHILLIPS, Mrs. G. E., Chevy Chase, Md.: 3 polished pearl shells and a sample of wood turnings (90661).

PHILLIPS, Dr. JOHN C., Wenham, Mass.: Skeleton of the Aleutian tern from Alaska (90775).

PHOTOGRAPHERS ASSOCIATION OF THE MIDDLE ATLANTIC STATES, Washington, D. C. (through David B. Edmondston, president): photographic portrait of Rev. T. M. Monayhan, by Edmund Drummond-Young, of Edinburgh, Scotland, which won the $500 prize for the best portrait exhibited at the convention of the association held in Washington, D. C., March 20–31, 1926 (91323).

PICKENS, Prof. A. L., Greenville, S. C.: A toad and a salamander from Greenville (91428).

PIIP, Madame A., Esthonian legation, Washington, D. C.: National costume of Esthonia, from the island of Saaremaa (Oesel) (89876).

PILSBRY, Dr. HENRY A., Philadelphia, Pa.: 51 specimens, 4 species, of mollusks from Arizona and Mexico (89709). Exchange.

PINCKNEY, EDWARD RUTLEDGE, Charleston, S. C. (through Mrs. W. W. Childs, Washington, D. C.): A silk dress of the colonial period (88932). Loan.

PIPER, Dr. C. V., Washington, D. C.: 3 plants from Washington (88816); 14 plants (89594); 2 plants from the West Indies (90445).

(See also Salvador, Government of, Direccion General de Agricultura, and under Tropical Plant Research Foundation, Washington, D. C.)

PITTIER, Dr. H., Caracas, Venezuela: Bat and a collection of insects (87981); plants and a photograph from Venezuela (88949); 366 plants from Venezuela (89668, 90774, 91716); 96 insects from Venezuela (89828); lizard from Caracas (91852).

(See also under Dr. Alfredo Jahn and Sr. José Saer.)

PLASSE, Grosdes, Paris, France: 38 aquatints in color for special exhibition (88881).

PLOWMAN, GEORGE T., Cambridge, Mass.: Soft-ground etching, mezzotint, 3 lithographs, 4 etchings, and 4 dry points (90503); 39 etchings and 15 unmounted lithographs for special exhibition (91360). Loan.

PODPERA, Dr. J. (See under Masaryk University, Botanical Institute, Brno, Czechoslovakia.)

POMONA COLLEGE, Claremont, Calif: 4 plants (84140, 90707); (through Dr. Philip A. Munz): 2 specimens of plants from southern California (91297). Exchange.

PONTON, G. & G., Glasgow, Scotland: 32 examples of rotary intaglio printing in colors (87968).

POOLE, A. J., Washington, D. C.: Deer skull from New Jersey (91711).

PORSILD, Dr. M. P. (See under Den Danske Arktiske Station, Disko, Greenland.)

PORTER, H. F. J. (See under Chester Griswold.)

PORTLAND CEMENT ASSOCIATION FELLOWSHIP, Washington, D. C. (through R. H. Bogue): Crystals of platinum formed by volatilization of a pure platinum heating element (88075).

POST OFFICE DEPARTMENT: 11 sets of specimen stamps, etc., in triplicate (3,622 specimens), received from the International Bureau of the Universal Postal Union, Berne, Switzerland (88003, 88474, 88712, 88936, 89696, 89723, 90470, 90693, 91307, 91396, 91694); 3 specimens each of the following United States postage stamps: 13-cent and 17-cent stamps of the ordinary issue, 1925–26, and 10-cent air-mail stamp, issued 1926 (90723).

POTTER, HERBERT L., El Paso, Tex.: 2 plants from New Mexico (91685). Exchange.

POWELL, J. W., Mesilla Park, N. Mex.: Plant from New Mexico (89566).

POWNALL, Mrs. S. H., Banjoewangi, eastern Java (through Dr. A. Hrdlička): The upper and lower jaws of a parrot fish (90372).

PRINCETON UNIVERSITY, Princeton, N. J.: 2 slabs of footprints from the Triassic of New Jersey and a plaster cast of one track from Apache Trail, Colorado Canyon, Ariz. (90360). Exchange.

PRINT MAKERS SOCIETY OF CALIFORNIA, Pasadena, Calif.: 120 etchings, dry points, aquatints, block prints, mezzotints, and lithographs (89636). Loan.

PROCTOR, JOHN CLAGETT, Washington, D. C.: Bronze medal issued by the citizens' inaugural committee of the District of Columbia in commemoration of the inauguration of Calvin Coolidge as President and Charles G. Dawes as Vice President of the United States, March 4, 1925 (88048). Loan.

PROVINCIAL MUSEUM, Victoria, British Columbia, Canada: Fern from Vancouver Island (88972), exchange; 5 fossil plants (90890).

PRYOR, Mrs. EMMA B., Mauch Chunk, Pa.; Mexican flag captured during the War with Mexico, 15 copies of the Weatherly Herald, and a framed lithograph showing view of the Battle of Chapultepec (89265).

PULLEINE, Dr. ROBERT H., Adelaide, Australia: 8 photographs of plants and 2 plants (89302, 89666, exchange); (through Dr. A. Hrdlička) 2 Australian skulls, a male and female, and a sample of Tasmanian hair (90407).

PURDUE UNIVERSITY AGRICULTURAL EXPERIMENT STATION, Lafayette, Ind. (through Prof. H. B. Jackson): 4 plants from South America (89291).

PURPUS, Dr. C. A., Huatusco, Vera Cruz, Mexico: 66 plants from Mexico (88805, 90687); 593 plants (89298, 89874, 90740, 91320, 92307): 5 plants, a bird's nest, and 1 egg (90852).

PURPUS, Dr. J. A., Darmstadt, Germany: 3 specimens and a photograph of plants (92310). Exchange.

PUTNAM, GEORGE R. (See under Commerce, Department of, Bureau of Lighthouses.)

QUAKER LACE CO., Philadelphia, Pa.: Design and draft for craft-lace curtain and 15 specimens of lace curtains and curtain material made on a craft-lace curtain loom (92197).

RABKIN, WILLIAM. (See under International Mutoscope Reel Co.)

RADCLIFFE, J. H., Woodhaven, Long Island, N. Y.: 4 photographs (88211).

RANSIER, H. E., Manlius, N. Y.: 2 plants from central New York and 4 photographs of plants (88144, 88192).

RASCHE, P. H., Stanley, Idaho: 17 specimens of the mineral hudsonite from Custer County, Idaho (88477).

READING, Miss ALICE M., Towson, Md.: 18 baskets from various tribes of California Indians (91365).

READIO, Dr. PHILIP A., Lawrence, Kans.: Eggs of 7 species of insects (90004). Exchange.

RECORD, Prof. SAMUEL J. (See under Yale University, School of Forestry.)

REED, Dr. S. ALBERT, New York City (through Godfrey L. Cabot): The Collier trophy awarded annually by the National Aeronautic Association for the greatest achievement in aviation in the United States, awarded to Doctor Reed in 1925 for his development of the high-speed metal propeller (91348). Loan.

REED, Prof. CLYDE T., Kingsville, Tex.: Moth from Texas (90678).

REED, FRED M., Riverside, Calif.: 67 mollusks from various localities, including California, Philippine Islands, and the West Indies (88116); approximately 75 marine and fresh-water mollusks from California (88762); 16 grasses (88893).

REESE, A. M., Morgantown, W. Va.: Salamander from West Virginia (89029).

REESIDE, J. B., JR. (See under Dr. Maurice A. Rollot.)

REID, E. D., Washington, D. C.: 239 fishes from the Anacostia River (88174).

REIGER, Miss HENRIETTE, Baarn, Netherlands (through Legation of the United States of America, The Hague, Netherlands); Dutch gold 10-guilder piece coined in 1895 (85551).

REINHARD, H. J., College Station, Tex.: 2 flies from Texas (90427). Exchange.

REIS, JACOB A., Wooster, Ohio: Trunk skeleton of a screech owl from Alabama and skeleton of an English sparrow from Ohio (90478, 91801).

REKO, Sr. Dr. BLAS P., Nayarit, Mexico: 4 plants (88730, 88954).

RENDLE, Dr. A. B. (See under British Government (British Museum Natural History).)

RENE, Rev. Brother ARTEMIO, Managua, Nicaragua: 122 plants from Central America (90515).

RENICK, B. COLEMAN, Washington, D. C.: Small collection of pottery fragments from Sandoval County, N. Mex. (91777).

RESLER, GEORGE E., St. Paul, Minn.: 58 etchings for special exhibition (88842). Loan.

REYGASSE, MAURICE, Tebessa, Algeria, North Africa: 132 stone implements from North Africa (88916). Exchange.

REYNOLDS, Prof. S. H. (See under University, The, Bristol, England.)

RICE MILLER'S ASSOCIATION, THE, New Orleans, La.: 12 specimens of rice showing commercial grades and stages in the milling from rice on the stalk to the finished and polished grades (89604).

RICHEY, HOMER, Charlottesville, Va.: Iron tomahawk plowed up about 30 years ago on the plantation of William J. Richey in the northeastern part of Oktibbeha County, Miss. (87649).

RICKARD, ELDON V., Washington, D. C.: Lamprey eel from Great Falls, Md. (91823).

RIKSMUSEETS, Stockholm, Sweden:
Botaniska Avdelning (Prof. G. Samuelsson, director): 223 plants from Europe (88159); 500 plants, mainly from South America (89627); 240 plants from South America and Scandinavia (89873); 325 plants, mainly from Sweden and Brazil (90721); 200 plants from Brazil, collected chiefly by Dusen (90829); 130 plants from Brazil and Cuba (91282); 369 plants from Cuba and Scandinavia (91364). Exchange.
Mineralogiska Avdelning (through Prof. G. Aminoff): 5 specimens of minerals from Sweden (89839). Exchange.
Paleobotaniska Avdelning (through Dr. T. E. Halle): 2 photographs and 1 fragmentary specimen of Jamaican fern types (90375).

RILEY, J. H., Washington, D. C.: 18 bird skins from Virginia (88818, 92272).

RING, H. A., Washington, D. C.: Collection of garnets and a left ramus with last molar of a mammoth from Alaska (88469).

ROADS, Miss KATIE M., Hillsboro, Ohio: 21 plants (87962, 89510).

ROBERTS, Mrs. W. A., Washington, D. C.: 3 mounted birds (87901).

ROBINSON, I. H., Bridgetown, Barbados, British West Indies: 8 plants from Barbados (89732).

ROCHESTER PARK DEPARTMENT, Rochester, N. Y. (through W. L. G. Edson): 2 plants (88047, 88175). Exchange.

ROEBLING, Col. WASHINGTON A., Trenton, N. J.: A section of polished agate (89512); specimen of the mineral magnetoplumbite from Sweden (89513); 5 crystals of mineral from North Carolina (89792); 33 specimens of minerals from Russia

ROEBLING, Col.—Continued. (89803); 3 mineral specimens—buratite, tapiolite, and bravoite (90277); 3 rare minerals from Hagendorf, Bavaria (90352); 6 specimens of minerals from Franklin Furnace, N. J. (90378); 2 minerals from Switzerland (91299); specimen of dark red willemite from Franklin Furnace and examples of foyaite rock containing "taramite" from Ukraine, Russia (91412); 10 minerals comprising rare species from European localities (91697); large pink beryl from Maine, section of a tourmaline from Maine, and a blue topaz from California (91759).

ROGERS, J. T., Charleston, S. C.: 11 tree frogs from Charleston, S. C. (91986).

ROGERS, William Allen, Washington, D. C.: Pen and ink cartoon entitled "Paid in Full," the work of the donor (90412).

ROHWER, F. W., Trinidad, British West Indies: Small collection of Upper Miocene bryozoans from Spring Vale Quarry, near Couva, Trinidad (89236).

ROHWER, Miss Hester M., Boulder, Colo.: 126 miscellaneous insects from island of Trinidad (88732).

ROJAS, Prof. Ruben Torres, Cartago, Costa Rica: 2 salamanders, 3 lizards, and an orchid from Costa Rica (89013, 91851).

ROLLOT, Dr. Maurice A., Bogota, Colombia (through J. B. Reeside, jr.): Geological material from Colombia (89672); Indian stone ax from Puente del Cossuni, Chia, Colombia (89721).

ROSE, Dr. Eric, Tucheband, Germany: 81 specimens, 7 species, of amphipods, representing all but one of the known fresh-water species of Germany (91413). Exchange.

ROSE, Mrs. G. H., Washington, D. C.: Cree Indian beaded bag and bandolier (91438).

ROSE, Dr. J. N., Washington, D. C.: Approximately 50 specimens, 7 species, of mollusks from Atlantic City, N. J. (88935).

ROSENBERG, E., Copenhagen, Denmark: 77 vials of beetle larvæ, most of the material being reared, and 11 specimens new to the Museum collections (90700).

ROSER, Rev. Theo, Brookland, D. C.: 2 mollusks from Haapai Island, Tonga group (88990).

RÓST, E. C., Alhambra, Calif.: Plant (90808).

ROTH, Ernest D., New York City: 96 etchings for special exhibition (89794). Loan.

ROTH, Dr. George B., Washington, D. C.: 10 old surgical instruments with a cloth case (88734). Deposit.

ROUNDY, P. V., Washington, D. C.: 31 specimens, 6 species, of land and fresh-water shells from Iowa, Missouri, Nebraska, and Oklahoma (91363).

ROYAL BOTANIC GARDEN, Edinburgh, Scotland (through Prof. William Wright Smith): 1,393 plants collected in Yunnan, China, by George Forrest, 1921–1922 (88114); 172 specimens of Chinese plants (88801); 250 packets of rhododendron seed (91758). Exchange.

ROYAL ONTARIO MUSEUM OF MINERALOGY, Toronto, Canada: 26 minerals and rocks from Canada (91354). Exchange.

ROYAL PALM NURSERIES, Oneco, Fla. (through Mr. James Combs): 2 plants (88626).

ROYAL SCHOOL OF MINES, London, England: 270 specimens, 68 species, of Tertiary invertebrates (89678). Exchange.

ROZIENE, R. P., Phoenix, Ariz.: Samples of the mineral bentonite from near Phoenix (89529).

RUBBER ASSOCIATION OF AMERICA (INC.), New York City: Specimens of sprayed rubber and 2 photographs of equipment for han-

RUBBER ASSOCIATION OF AMERICA (INC.)—Continued.
dling latex (88501); 6 rubber-set brushes and a photograph and 10 golf balls (88713); policeman's rubber raincoat and 2 rubber ponchos (88857); 82 rubber gloves and surgical accessories made by the Wilson Rubber Co., Canton, Ohio (89731); (through the General Rubber Co.) 13 photographs taken on the Amazon in the rubber-producing region and a sample of Urucury palm nuts used in curing Brazilian rubber (91398).

RUBIANO, Sr. ANIBAL, Calamar, Dpto. Bolivar, Colombia, South America: Lantern fly from South America (88708).

RUDGE, WILLIAM EDWIN, New York City: Halftone in colors by a process developed by the donor and called "Smithsonian process" (91747).

RUNYON, ROBERT, Brownsville, Tex.: Plant and photograph of a plant (87995); 49 plants from Texas (88055, 89006, 91454, 91709); 266 plants from Texas and Mexico (91757); photograph of a plant (88515); 3 plants (90404); photograph of a plant (91890).

RUSBY, Dr. H. H. (See under Mulford Biological Exploration of the Amazon Basin.)

RUSSELL, E. E. (See under Agriculture, U. S. Department of, Bureau of Entomology.)

RUTH, Prof. ALBERT, Polytechnic, Tex.: 104 plants (88204, 92209); 20 plants from Texas (89268, 90417).

RYERSON, KNOWLES A. (See under Dr. A. E. Vinson.)

SAER, Sr. José, Barquisimeto, Venezuela (through Dr. H. Pittier): 79 plants from Venezuela (89667).

ST. PROCOPIUS COLLEGE, Lisle, Ill. (through Hilary S. Jurica): 197 plants from Illinois (90620).

SAKAGUCHI, Soichiro, Shuri, Okinawa, Japan: 221 land, fresh-water, and marine shells from Japan (88041).

SALAS, Sr. DON JOSEN GARCIA. (See under Guatemala, Government of.)

SALMAN, K. A., San Salvador, El Salvador, Central America: Collection of insects from Central America; 5 specimens of parasitic Hymenoptera and 2 flies (87207, 89545, 90699, 91772).

SALVADOR, GOVERNMENT OF, DIRECCION GENERAL DE AGRICULTURA, San Salvador, El Salvador, Central America (through Dr. Salvador Calderon): 25 plants from Salvador and 9 plants received through Dr. C. V. Piper, United States Department of Agriculture (88147, 88724, 88797, 88952, 92208).

SAMELIUS, W. H. (See under Elgin National Watch Co.)

SAMPSON, Prof. EDWARD, Princeton, N. J.: Greek vases and marbles, iridescent glassware, terra cottas, bronze arrowheads and fish hooks, minute celts and stone chisels, and miscellaneous stone implements (125 specimens) (90506). Loan.

SAMUELSSON, Prof. G. (See under Riksmuseets Botaniska Avdelning.)

SASAKI, Prof. MADOKA, Sapporo, Japan: 84 specimens, 40 species, of crustaceans from northern Japan and China, principally collected by the donor (90452).

SASKATCHEWAN, UNIVERSITY OF, Saskatoon, Saskatchewan (through Prof. A. E. Cameron): Specimen of fly larva from Dalesboro, Saskatchewan (88039).

SATICOY WALNUT GROWERS ASSOCIATION, Saticoy, Calif. (through Mr. S. E. Flanders): 6 insects (91770).

SAUNDERS, D. A., Greenville, Tex. (through Dr. L. W. Stephenson): Miscellaneous bones of a plesiosaurian reptile (88478).

SAUNDERS, M. B., South Norwalk, Conn.: 12 specimens, 1 species, of mollusks from South Norwalk (88619).

SAUNDERS, Richard L., Washington, D. C.: Barn owl from Montgomery County, Md. (88489).

SAWYER, Mrs. John L. H., Silver Springs, Md.: Blue and white bowl and pitcher of English Davenport ware decorated with scenes, dated about 1830 (89690); United States silver dime coined in 1807 (89718).

SCALCO, Salvatore, Washington, D. C.: Gecko from Kingston, Jamaica (88070).

SCHAFER, Algernon S., New York City: A Ford's "Tom Thumb" camera and a box of Climax dry plates (91987).

SCHALLER, Dr. W. T. (See under Ernest Schernikow.)

SCHAUS, Dr. William. (See under Dognin collection fund.)

SCHEIDEGGER, Paul, Nebikon, Luzern, Switzerland: 3 insects from Switzerland (88709).

SCHERNIKOW, Ernest, San Francisco, Calif. (through Dr. W. T. Schaller): 2 specimens of the mineral stibiotantalite from Mesa Grande, Calif. (89617).

SCHEUCH, L. W., North Beach, Md.: Specimen of red-tailed hawk (89768).

SCHMID, Edward S., Washington, D. C.: 4 parrots (88125; 88470; 88831); skin and skull of a marmoset (89022); Amazon parrot (89614); European siskin (89748); 21 birds (89781, 90512, 91358, 91878).

SCHMITT, Dr. Waldo L., Washington, D. C.:

(See under Dr. Arturo Montoro Guarde, Smithsonian Institution: Collected by members of the staff, and Walter Rathbone Bacon Scholarship.)

SCHNEIDER, Mrs. Eberhardt, Long Island City, N. Y. (through Motion Picture Producers and Distributors of America (Inc.): 82 pieces of motion-picture apparatus and a motion-picture camera (88937, 91385). Loan.

SCHOTT, Fred M., Brooklyn, N. Y.: 3 flies and 11 beetles (88040, 90637).

SCHROEDER, Henry. (See under Edison Lamp Works of the General Electric Company.)

SCHWARZ, Sr. Eng. Theo, Durango, Mexico: 40 specimens of cactus (88812).

SCHWEINFURTH, Charles. (See under Sr. Don Anastasio Alfaro.)

SCIENCE SOCIETY OF CHINA, THE, Nanking, China: 26 shells from China (87910).

SCOTT, W. Gilbert, Cardiff, Wales: 69 pictorial photographs for special exhibition (88806). Loan.

SEABOARD AIR LINE RAILWAY CO., Development Department, Savannah, Ga.: A forest fire prevention placard (92248).

SENCKENBERGISCHES NATURHISTORISCHES MUSEUM, Frankfurt-on-the-Main, Germany: Cast of a slab containing Cambrian fossils from Shantung, China (90087). Exchange.

SENIOR-WHITE, Ronald, Suduganga Estate, Matale, Ceylon: 64 flies from Ceylon and India (88919). Exchange.

SETCHELL, Prof. W. A. (See under California, University of.)

SEVERIN, Prof. H. C. (See under South Dakota State College.)

SEWARD, Dr. J. Perry, N. Y. City, and Dr. Henry B. Minton, Brooklyn, N. Y.: Medicine case used by Dr. Samuel C. F. Hahnemann, the founder of homeopathy (91708).

SHANNON, Raymond C., Washington, D. C.: 842 insects (88820). Exchange.

SHEAR, Dr. C. L. (See under Agriculture, U. S. Department of, Bureau of Plant Industry.)

SHEELY, J. C., Alexandria, Ind.: Tail portion of a fossil trilobite imbedded in rock, from Alexandria, Ind. (88716).

SHERIDAN, James M., Washington, D. C.: 5 Philippine weapons (89321).

SHERIDAN, Mrs. PHILIP H., Washington, D. C.: Presentation swords, commission as general, gold watch and chain, military badges and a carved wooden cane, owned by Gen. Philip H. Sheridan, United States Army (89848, loan); uniforms, insignia, presentation pistols, saddles and accessories, and military flags, owned by General Sheridan (89849).

SHOEMAKER, C. R. (See under H. S. Barber.)

SHOEMAKER, ERNEST, Brooklyn, N. Y.: 4 beetles representing 3 rare species (88853).

SIEGEL, OSCAR, Washington, D. C.: Model of a canoe made by Indians of the eastern United States (90886).

SILLIE, Mrs. JULIA A., Kingsville, Ohio: Lavender silk crepe shawl about 100 years old (89727).

SIMMONS, W. E., Ocala, Fla.: Living whip-tail scorpion from Florida (88624).

SIMPSON, CHARLES T., Little River, Fla.: Large crab found near Little River (90406).

SIMS, CARLETON F., Washington, D. C.: Insignia of the United States Army Ambulance Service on the Italian front during the World War (89700).

SKEELS, HOMER C. (See under Agriculture, Department of, Bureau of Plant Industry.)

SLATER, Mrs. H. D., El Paso, Tex.: Photograph of a plant, and a specimen of cactus (88207, 90444).

SMILLIE, Mrs. G. F. C., Washington, D. C.: 208 specimens, being some of the tools and materials used by the late Mr. George F. C. Smillie, chief portrait engraver at the Bureau of Engraving and Printing for many years, and a few proofs from his plates (90810).

SMITH, A., Brisbane, Queensland, Australia: 15 specimens of archaeocyanthinae limestone from South Australia (86156). Exchange.

SMITH, Miss ALICE R. HUGER, Charleston, S. C.: 4 block prints in colors, and a wood block print "The Cotton Picker" (89318, 89635).

SMITH, AUSTIN, San José, Costa Rica (through Paul C. Standley): A small collection of insects collected in Costa Rica (91306).

SMITH, CHARLES PIPER, San Jose, Calif.: Plant from California (91702).

SMITH, FRANCIS E., Jr., Winchester, Mass.: 2 fishes from Cape Ann (90626).

SMITH, HARRY S., Riverside, Calif.: Fly (88210).

SMITH, Mrs. H. H., University, Ala.: Approximately 700 fresh-water shells from Alabama (89761).

SMITH, HENRY, Washington, D. C.: 11 Spanish silver dollars fused together, taken from the wreck of the Spanish battleship *Infanta Maria Teresa* after the battle of Santiago, July 2, 1898 (91675).

SMITH, Dr. HUGH M., Bangkok, Siam: 70 mammals and 22 birds from Siam, collected for the Museum (88654); skin and skull of a shrew and a bat from Siam (89885, 90513).

SMITH, Dr. M. A., London, England: 2 sea-snakes from northern Australia (88574). Exchange.

SMITH, Prof. STANLEY, Bristol, England: 5 thin sections of 2 British Carboniferous corals (89644).

SMITH, VICTOR J., Alpine, Tex.: An incomplete human female skeleton (87491).

SMITH, WILLIAM, Washington, D. C.: United States Army saber (88697).

SMITH, WILLIAM WRIGHT. (See under Royal Botanic Garden, Edinburgh.)

SMITHSONIAN INSTITUTION: Etching by John W. Winkler—the Associate Member's Print given by the Brooklyn Society of

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Etchers (90463); bronze medal commemorating the founding of the Comenian University of Bratislava, Bratislava, Czechoslovakia, in 1919 (92245).

Bureau of American Ethnology: 2 plaster casts of an amulet sent to the bureau for identification (88232); bronze medal commemorating the celebration of the first centennial of the National Museum of Mexico (89786); 2 chert rejects, 4 potsherds, and 1 small arrow point found in a gravel pit about one-half mile west of the Grand River, near Pryor, Okla., and presented to the bureau by Grant Foreman (90380); archeological material collected by H. B. Collins, jr., in Mississippi during 1925 (90604); 45 archeological specimens from Washington, collected by Earle O. Roberts (90632); 8 stone and shell implements found by Charles T. Earle on the beach at Shaws Point, Fla. (90813); approximately 19 lots of human skeletal material collected in Florida by Dr. J. W. Gidley (91825); archeological specimens collected in Louisiana by Gerard Fowke (92317).

National Museum, collected by members of the staff. Aldrich, J. M.: 2,200 insects, mostly Diptera, collected in Guatemala during April and May, 1926 (92370). Avery, Edward A.: 10 specimens showing knots as defects in lumber (91900). Bassler, R. S.: Approximately 10,000 specimens of invertebrate fossils from the Ordovician, Devonian, and Mississipian of Kentucky and Tennessee (88832). Bean, B. A.: 79 fishes collected in the Potomac River, opposite Engle, W. Va. (88054); 6 fishes from Little Falls, Potomac River, D. C. (92303). Boss, N. H., and

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National Museum, etc.—Con.

Remington Kellogg: Specimen of a cetacean from cliffs along Chesapeake Bay; cetacean material collected near Plum Point, Calvert County, Md.; skull and parts of a skeleton of a whale, and miscellaneous cetacean material collected from the cliffs near Plum Point, Md. (88058, 90353, 92200). Foshag, W. F., and C. R. Aschemeier: Minerals and rocks from southern Pennsylvania (91760). Gidley, J. W.: Collections made in Florida during the summer of 1925, under the auspices of the Bureau of American Ethnology; also a collection of mammalian fossils from Long Horn Spring, Okla., collected under the same auspices; fossil vertebrates from the Pleistocene deposits near Melbourne, Fla. (89308, 89670, 91826). Gilmore, C. W.: Collection of fossil footprints, fossil plants, and 2 concretions from the Grand Canyon of the Colorado, Ariz. (91875). Hrdlička, A.: Series of samples of hair from Australian aborigines; fragmentary bones of prehistoric vertebrate animals; fragmentary fossil bones and a few concretions from localities in South Africa: 12 samples of hair from Australian full-bloods of the northwestern and western coast of Australia, skull of a full-blooded Australian, and 3 specimens of fragmentary and morphologically valuable lower jaws; also ornamented tree gourd and 3 chipped glass implements used by the aborigines of Derby, northwestern Australia (88934, 89602, 89906, 90408). Killip, E. P.: 63 plants from Europe (88866). Leonard, Emery C.: 9,000 plants and a collection of miscellaneous zoological material,

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National Museum, etc.—Con. comprising shells, insects, reptiles, and worms, from Haiti (91346). Miller, Gerrit S., jr., and C. R. Aschemeier: Mammals, birds, fishes, reptiles, batrachians, crustaceans, and plants from Florida (91698). Pohl, Erwin R.: Middle Devonian fossils, including invertebrates and plants, from eastern and central New York (88826). Reid, E. D.: 629 fishes, representing about 13 genera from various localities in southern Maryland; about 50 mollusks from Zekiah Swamp, east of Waldorf, Md.; 3 crayfishes and 12 fresh-water shrimps from near Waldorf (91866). Richmond, C. W.: 65 birds from Putnam County, N. Y. (91879). Resser, C. E., and E. O. Ulrich: Invertebrate fossils collected in Europe in the summer of 1925 (90416.) Rose, J. N.: Algae from the vicinity of Atlantic City, N. J.; also hydroids and bryozoans; 50 specimens of algae from Atlantic City, and 62 hydroids and bryozoans (88817, 88821). Shannon, E. V., and James Benn: 50 specimens of rocks and minerals from various points in Virginia and Maryland (92265). Schmitt, Waldo L.: 1,639 miscellaneous specimens collected by him at Tortugas, Fla. (88630). Smith, Hugh M.: Collection of insects, approximately 200 crustaceans, 426 mollusks and 300 reptiles and batrachians and 25 plants from Siam (90422). Standley, Paul C.: 16,000 plants, chiefly from Costa Rica (about 450 from Panama); 7 frogs and lizards, small lot of land and marine shells, and a small lot of insects (89473). Walcott, C. D.: Canadian, Ozarkian, and Cambrian fossils from British Columbia, collected by Dr. and Mrs. Walcott during the field season of 1925 (92324).

National Museum, obtained by purchase: 45 ethnological specimens from China and Tibet, and approximately 99 Chinese coins (92246); 3 original paintings of birds by John James Audubon (88012); 25 specimens of mosses (91283); oil painting facsimile "Norwegian Fjord" by W. Moras (88833); 25 specimens of plants (fascicle 3, Nos. 51–75, Lichenes Exsiccati (90769); Devonian trilobite from West Virginia (91337); 77 plants collected in Venezuela by Allart (89710); 120 plants from Venezuela (90774); 3 frogs from New South Wales (87624); 11 small mammals (89679); fossil crab from California (88246); 5 fossil turtles (88110); 350 plants from Venezuela (88011); 25 invertebrate fossils (92155); 50 plants from British Guiana (85821); 160 plants from Chile (88247); Evelyn (John) Sculptura, 1662, with frontispiece and the Prince Rupert mezzotint "Head of the Executioner of St. John the Baptist" (88706); Eskimo woman's steatite labret and an Eskimo man's walrus ivory labret (87992).

National Museum, made in the Museum laboratories: Group of 6 operative models and 2 illuminated transparencies, showing the development of the steam engine, from Hero, 50 A. D., to James Watt, 1777 (91736).

National Zoological Park: Monkey, goat, skull of an elephant, and a grasshopper-mouse (88066); skin, skull, and leg bones of a kangaroo, skin and skeleton of a kangaroo, skin and skeleton of a porcupine, skin and

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skeleton of a beaver (88926); skin and skull of a monkey, skeleton of a kangaroo, and skeleton of a yak, also skeleton of a Rocky Mountain goat (88927); skin and skeleton of a wallaby, skin, skull, and leg bones of an Indian antelope, and skin and skeleton of a Rocky Mountain sheep (88928); 20 birds (89009); skin, skull, and leg bones of a gazelle (89023); skeleton of a kinkajou, skin and skeleton of a mongoose, skeleton of an armadillo (90437); skin and skeleton of a monkey, skin and skull of a bear, skin and skull of a zebra, and skin and skeleton of a reindeer (90438); skin and skeleton of a margay cat, skin and skull of a mountain goat, skin and skeleton of a ferret, skin and skeleton of a capybara (90439); 10 birds (90460); 7 birds (90809); skin and skeleton of a kinkajou, an agouti, skin and skeleton of a bob cat, skin and skeleton of a cat, skin and skeleton of a marmoset (91357); 4 bird eggs (91901); skeleton of a hedgehog, skin and skeleton of a cat, and skin and skull of a kangaroo (92251).

SOOCHOW UNIVERSITY, Soochow, China (through Chenfu F. Wu). Small collection of insects (89659).

SOOP, CHARLES W., Georgetown, Md.: 3 birds from Maryland (89526).

SORENSON, CHARLES J. (See under Utah Agricultural College, Logan, Utah.)

SOTH, Mrs. M. E., Pocatello, Idaho: 2 plants (87978, 88502).

SOUTH DAKOTA STATE COLLEGE, Brookings, S. Dak. (through Prof. H. C. Severin): 21 insects collected in South Dakota (90482, exchange).

SOUTHERN BIOLOGICAL SUPPLY CO. (INC.), New Orleans, La. (through Percy Viosca, jr.: 22 specimens, 3 species, of crayfishes from Louisiana (88909).

SPAULDING, PERLEY. (See under Agriculture, United States Department of, Bureau of Plant Industry.)

SPRINGFIELD CHAMBER OF COMMERCE, Springfield, Mass.: Photostat copy of a newspaper, Springfield Evening Union, for Saturday, September 16, 1893, and of the Springfield Morning Union for Friday, November 10, 1893, giving accounts of the automobile work of J. F. and Charles E. Duryea (91737).

STANDLEY, Mrs. FLORENCE A., Fort Myers, Fla.: Orchid from Florida (91859).

STANDLEY, PAUL C. (See under Austin Smith and Prof. Juvenal Valerio.)

STANFIELD, Mrs. THEODORE, New York City: Brass hornbook, "St. Pauls, A. D. 1729," on the back, purchased in Totness, England, in 1922 (90447, loan).

STANFORD UNIVERSITY, Stanford University, Calif.: 54 plants, and a photograph of a plant (92142, 92304). Exchange.

STANTON, Dr. T. W. (See under Cia Mexicana Holandesa la Corona and Dr. J. A. Udden.)

STATE, DEPARTMENT OF. (See under Brother Julio.)

STATE NATURAL HISTORY SURVEY DIVISION, Urbana, Ill. (through Dr. T. H. Frison): 2 specimens of flies, type and paratype (90397).

STATON, G. D., Canton, Tex.: Portion of a splenial, or mouthplate of an extinct pycnodont fish (85876).

STEELE, E. S., Washington, D. C.: 241 plants, chiefly from West Virginia (88235).

(See also under Dr. L. H. Bailey.)

STEERE, J. E., Charlotte, N. C.: 18 examples of recent Indian pottery art (90805).

STEPHENSON, Dr. L. W., Washington, D. C.: Series of photographs of Indians of Venezuela, South America (89549).

(See also under D. A. Saunders.)

STEPHENSON, Robert & Co. (Ltd.), Darlington, England (through J. G. H. Warren): Blue print of "Lancashire Witch" locomotive, specifications of "Allan's engine, America (No. 12)" locomotive, specifications of "Capt. Whistler's America (No. 17)" locomotive (90690).

STEWARD, Albert N. (See under Nanking, University of.)

STILL RESEARCH INSTITUTE, THE A. T., Chicago, Ill. (through Dr. Riley D. Moore): 7 books dealing with the subject of osteopathy, for incorporation with the osteopathic exhibit (89238).

STOKES, W. E. (See under Florida, University of.)

STOLYWHO, Prof. K. (See under Instytut Nauk Antropologicznych.)

STONER, Prof. Dayton. (See under Iowa, State University of.)

STOWE, Mrs. Emily, Washington, D. C.: 6 water colors and 6 etchings, all the work of Captain W. Francis Longstaff (92211). Loan.

STRAITS SETTLEMENTS AND FEDERATED MALAY STATES: *Department of Agriculture*, Kuala Lumpur (through B. A. R. Gater, Government Entomologist): 10 specimens of flies (88761).

STRATTON, Robert, Stillwater, Okla.: Plant from Oklahoma (91800).

STRESEMANN, Dr. Erwin. (See under Zoologisches Museum der Universitat, Berlin, Germany.)

STRITE, H. E., Hagerstown, Md.: 12 specimens of calcareous tufa from Hagerstown (88824).

STUDHALTER, Prof. R. A., Alpine, Tex.: 81 plants from Texas (88690).

SUK, Prof. V., Brno, Czechoslovakia: 3 casts of human upper jaws, and 1 cast of the lower jaw of a fossil ape (90866).

SUMNER, Dr. F. B., La Jolla, Calif.: Crab from Florida (90675).

SUMWALT, Margaret, Philadelphia, Pa.: 8 slides of trematodes taken from snakes from San Juan Island, Puget Sound (90804).

SUSHKIN, Dr. Peter P. (See under Zoological Museum, Leiningrad, U. S. S. R.).

SWALES, B. H., Washington, D. C.: 25 bird skins and 3 skeletons of birds from Argentina and Bolivia (88290); 3 bird skins, representing 2 species new to the Museum (88811); 3 bird skins from Africa (88814); Alcoholic specimen of bird from Madagascar (88884); 3 bird skins from Madagascar, including a genus and 2 species new to the Museum (89836); 3 skins of a starling from the island of Bali, representing a genus and species new to the Museum (90369); skeletons of 4 birds from Minnesota (90645); flamingo from Madagascar (90725); 5 birds from Sumatra and Madagascar (91738); 2 skins of the fruit pigeon from New Guinea (81982).

SWART, Dr. Joseph, Kansas City, Kans. (through Dr. Riley D. Moore): Copy of Swart's "Osteopathic Strap Technique" for addition to the osteopathic exhibit (88961).

SWEETT, Mrs. S. J., New Smyrna, Fla.: 2 Florida Indian skulls, one male and one female (87696).

SWEZEY, O. H. (See under Hawaiian Sugar Planters' Association Experiment Station.)

SWINGLE, J. S., Quincy, Mass.: A model in "Peerless" Quincy granite of a monument erected in commemoration of the tercentenary of the founding of Quincy (87033).

SWINGLE, Messrs. Josiah M. and Morgan A., Washington, D. C. (through Edwin A. Swingle): Wood mortising machine and an old wrench (89296).

TAKA-TSUKASA, PRINCE N., Tokyo, Japan: 3 skins of birds from the Riu Kiu Islands, Japan (84868).

TAPLIN, Dr. G. C., Boston, Mass. (through Dr. Riley D. Moore): Fulcrum block foot adjuster (91280); model of a pneumatic adjustment table used in osteopathic treatment (92271).

TASKER, Dain L., Los Angeles, Calif. (through Dr. Riley D. Moore): Copy of Tasker's "Principles of Osteopathy," revised, 5th edition, for addition to the osteopathic exhibit (91654).

TAYLOR, J. V., Washington, D. C.: Specimen of great blue heron from Fairfax County, Va. (88238).

TEAL, Miss Helen. (See under Helen F. Dunn.)

TEDDER, George E., Belle Glade, Fla.: Plant from Florida (89651).

TELLEZ, Sr. Don Manuel C., Mexican Embassy, Washington, D. C.: Plant from Mexico (88471). Exchange.

(See also under Mexico, Government of, Department of Public Education.)

TEXAS DEPARTMENT OF AGRICULTURE, El Paso, Tex.: Specimens of mites (88463).

TEXAS GULF SULPHUR CO. (INC.), New York City: Illuminated operating transparency showing the workings of the Frasch or hot-water method of mining sulphur (91442).

THACKERY, Frank A., Los Angeles, Calif.: Plant (91703); 12 plants from Arizona (91979).

THARP, Prof. B. C., Austin, Tex.: 457 plants (88725, 92250).

THAYER, Miss Alice Tracy, Clifton Springs, N. Y.: Miscellaneous collection of ethnological and archeological specimens, fossils, minerals, shells, coins, and seeds and other plant products (89606).

THOMAS, Charles F., Winslow, Ariz.: Jawbone of an adult male Indian (90845).

THOMAS, Ron, Globe, Ariz.: Dried head of a fish (91830).

THOMAS, W. Russell, Reisterstown, Md.: Bird's nest made of wire (89625).

THOMAS-DURIS, G., Haute-Vienne, France: 27 plants (88612). Exchange.

THOMPSON, Glenn E., Dyerville, Calif. (through Le Roy Jeffers): Large specimen of redwood bark (89251).

THOMPSON, Leon S. (See under Mrs. Clara L. Tuckerman.)

THORNBER, Prof. J. J., Tucson, Ariz.: Plant from Arizona (88059).

(See also under Arizona, University of.)

TOLEDO SCALES AGENCY, Washington, D. C.: Toledo free person weigher complete with measuring rod (89818).

TOLMAN, R. P., Washington, D. C.: 5 paintings and 1 etching (92311). Loan.

TOMKINS, Ivan R., Savannah, Ga.: 34 birds eggs from Georgia (89773).

TOWNSEND, A. Liston, Philadelphia, Pa.: Egg of the Dominican gull from the Falkland Islands (87566).

TRAIN, Percy, Manhattan, Nev.: 5 specimens of the mineral conichalcite and 4 of chalcoalumnite (88230).

TREADWELL, Dr. A. L., Poughkeepsie, N. Y.: 57 specimens of polychaetous annelids from various localities, including 5 types (90442).

TREASURY DEPARTMENT: 8 subsidiary Japanese coins struck at the Imperial Mint, Osaka, 1924 (88138); 2 copies each of the United States silver half dollars commemorating, respectively, the California diamond jubilee, 1925, and the Fort Vancouver centennial, 1925 (88760); silver copy of the Carnegie medal awarded for acts of bravery in France (88933); 5 engraved steel plates used by the Confederate States Government for printing paper currency, captured by the United States forces in 1862, and the wrappers in which they were encased when received by the United States

TREASURY DEPARTMENT—Con.
Treasury Department from Maj. Gen. B. F. Butler, United States Army (91728); (through John McGrath, chairman, destruction committee, Washington, D. C.); a Watkins exposure meter (88307).

Mint of the United States, Philadelphia, Pa.: Minerals, comprising 32 items, formerly in the numismatic collection of the United States Mint, Philadelphia, Pa. (87810).

United States Public Health Service, Los Angeles, Calif. (through Dr. Carroll Fox); 8 specimens of fleas (90518).

TRECHMANN, Dr. C. T. (through T. H. Withers, London, England): 8 specimens, 3 species, of fossils from the West Indies (89234).

TROPICAL OIL CO. (through International Petroleum Co. (Ltd.), Toronto, Canada): 380 collections containing several thousand specimens of Tertiary fossils from Colombia (91724).

TROPICAL PLANT RESEARCH FOUNDATION, Washington, D. C.: Plant from Cuba (88203); (through Prof. W. A. Orton, director) 2 plants from Cuba (88614); (through Prof. C. V. Piper) 2 plants (88807).

TROXLER, CHARLES, Louisville, Ky.: 695 butterflies (91406).

TRUITT, Prof. R. V., College Park, Md.: 4 sponges, 9 medusae, 1 hydroid, 4 marine annelids, and 5 ascidians (87976, 89647); plant from Maryland (88225); fragment of medusae and 12 anemones (88092); 12 mollusks from Carroll's Bank, at the mouth of the Patuxent River, Maryland (88995).

TUBIZE ARTIFICIAL SILK CO. OF AMERICA, New York City: 15 skeins of Tubize artificial silk, unbleached, in decimal sizes from 50 to 190, made from cotton cellulose by the Chardonnet process (89565).

TUCKER, A. B., Punta Gorda, Fla.: Indian skull found in Florida (91707).

TUCKERMAN, Mrs. CLARA L., (through Leon S. Thompson, Executor, Newport, R. I.): 3 oil paintings by Edward Moran (89488). Bequest.

TURNER, Miss A., Washington, D. C.: Bird, indigo bunting (91761).

UDDEN, Dr. J. A., Austin, Tex. (through Dr. T. W. Stanton): 4 specimens of fossils from near Austin (88815).

UHLER, F. M., Washington, D. C.: 3 tree frogs from Minnesota (91338).

U. S. PHARMACOPOEIAL CONVENTION (INC.) (through Dr. H. M. Whelpley, St. Louis, Mo.): Copy of U. S. Pharmacopoeia X (Official copy B–7181), for inclusion in the exhibit illustrating the history of the U. S. Pharmacopoeia (90440).

UNITED PRODUCTS CO. (INC.), Los Angeles, Calif.: Sample of a recently developed fireplace fuel composed of compressed sawdust and shavings (92264).

UNIVERSITETETS BOTANISKE, MUSEUM, Copenhagen, Denmark: 1,117 plants, chiefly from Australia and tropical America; 36 plants, mostly ferns; 65 plants from Greenland (88236, 88944, 90791). Exchange.

UNIVERSITY, THE, Bristol, England (through Prof. S. H. Reynolds): Collection of Cretaceous and Paleozoic invertebrate fossils from Great Britain (85501). Exchange.

UNSWORTH, COLIN J., Didsbury, Manchester, England: 3 pictorial bromides (89563).

URITA, T., Tsingtao, North China: 8 specimens of crustaceans, comprising 2 male specimens of crabs and 6 female specimens of shrimp (90799).

UTAH AGRICULTURAL COLLEGE, Agricultural Experiment Station, Logan, Utah (through Dr. I. M. Hawley): 12 insects (87867, 90586); (through Charles J. Sorenson) 14 insects (90402).

VAIL, FLOYD, New York City: Pictorial photograph (88832).
(See also under Camera Club, The, New York City.)

VALERIO, Prof. JUVENAL, Tilarán, Guanacaste, Costa Rica (through Paul C. Standley): Collection of reptiles, some insects, and 4 stone axes from Costa Rica (91304).

VANDERBILT UNIVERSITY, Nashville, Tenn.: Approximately 700 Devonian and Mississippian fossils from Kentucky and Tennessee (89554); (through Prof. L. C. Glenn): Devonian crinoids from the Falls of the Ohio (90793). Exchange.

VAN DUZEE, M. C., Buffalo, N. Y.: 2 specimens of flies (paratypes of one new species (90389)).

VAN SEVEREN, Dr. ANDRES, La Ceiba, Honduras: 37 plants from Honduras (88098, 88974, 89774); 32 turtles from Florida (89270).

VAUGHAN, Miss CLARE, Savannah, Ga.: Plant (91780).

VAUGHAN, Dr. T. W., La Jolla, Calif.: A small lot of foraminiferal material from Martinique, sent to Dr. Vaughan by Prof. Jean Girand (89616); 15 specimens of foraminifera, a piece of rock containing other specimens, and 3 thin sections ground from pieces of rock, from the Tertiary of Peru (89725).

VAUX, GEORGE jr., Bryn Mawr, Pa.: 5 specimens of cassiterite and 4 of paravauxite from Bolivia (89669); 38 specimens of minerals, chiefly from Greenland (91724).

VICTORIN, Brother. (See under Montreal, University of.)

VIERECK, H. L., Ottawa, Ontario, Canada: 57 undetermined wasps and sawflies (88126).

VINSON, Dr. A. E., Port au Prince, Haiti (through Mr. Knowles A. Ryerson): Snake from Port au Prince (89916.)

VIOSCA, PERCY, jr. (See under Southern Biological Supply Co. (Inc.).)

VIRGINIA TRUCK EXPERIMENT STATION, Norfolk, Va. (through H. J. Henderson): Fly larvae from Virginia (88813).

VOIGT, EBERHARD, Dessau, Germany: 75 specimens of fossils from the Permian rocks at Possneck, Germany (89530).

VOLKMAN, Aug. C., Cincinnati, Ohio: 5 proofs of wood engravings by the donor (88613).

VON ESCHEN, Prof. F., Salem, Oreg.: Marine shell from Oregon (90487).

VONSEN, M., Petaluma, Calif.; A specimen of the mineral romerite, from Island Mountain, Calif. (88074); specimen of the mineral curtisite from Sonoma County, Calif. (91403). Exchange.

WALCOTT, Dr. CHARLES D., Smithsonian Institution: Insect from Lake Louise, Alberta, Canada (88887); 2 mountain sheep, skins and skulls; mule deer, skin and antlers; and a bird skeleton, all from Alberta (88895); lithograph entitled "The First Born Documents of Popular Constitutional Liberty" (89887, deposit); a line engraved portrait of Dr. Otto Jaekel (90394).

WALCOTT, Mrs. CHARLES D., Washington, D. C.: Examples of slickensides in Cambrian arenaceous shale, from Alberta, Canada (89517); 4 plants from Beaufort, S. C. (91271); 4 plants (91828).

WALKER, HARRY G., Manhattan, Kans.: 41 specimens of entomostraca (91317).

WALKER, J. S., Prairie du Rocher, Ill.: Potsherds from Louisiana, Mississippi, and Illinois (89717; 90002).

WALKER, ROBERT, Falls Church, Va.: Mole (90869).

WALKER, ROBERT C., Washington, D. C.: Black duck, in downy plumage, from Virginia (88007).

WALLACE & TIERNAN CO. (Inc.), Newark, N. J.: Chlorometer and a painting illustrating a farm establishment equipped with apparatus for sterilizing water (89365); a model illustrating the pollution of drinking water by seepage (91891).

WALTER RATHBONE BACON SCHOLARSHIP, Smithsonian Institution (through Waldo L. Schmitt): A comprehensive collection of crustaceans together with miscellaneous collections comprising hydroids, coelenterates, annelid worms, echinoderms, ascidians, mollusks, insects, fishes, batrachians, and algae (1925 collection) (88925).

WAR DEPARTMENT:

Air Service: Douglas airplane *Chicago* which made the flight around the world in 1924 (86864); a map of the world marked with the course of the United States Army airplanes around the world in 1924; 55 photographs taken by the fliers in various parts of the world during the flight; an enlargement of a picture of the fliers taken with President Coolidge in Washington, D. C. (90724).

Ordnance, Office of the Chief of: Luger pistol, caliber 7.65, with holster (Cal. 30, serial No. 7007) (90826); 5 U. S. Army rifles (91103); 2 automatic Mauser pistols with wooden holster, and 2 automatic pistols, Spanish express, captured by the American Expeditionary Forces during the World War (91560); German military material captured by American Expeditionary Forces during the World War (92263).

Quartermaster General, Office of: German Wanderer car captured by American Expeditionary Forces during the World War (88084); U. S. Army officer's uniform and enlisted man's uniform of 1926 (91580).

Signal Corps: Italian field telephone, an interphone telephone, a telephone transmitter and an American telephone, of the period of the World War (91472).

Edgewood Arsenal, Edgewood, Md.: 15 separate parts of a mask for protection against war gases and a complete mask including canister and carrier, to illustrate use of rubber in war (89515).

WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: Skull of a crocodilian-like reptile (88096, exchange); 30 slabs with ostracods from the Silurian drift of Germany, and 100 specimens of fossils from the Silurian at Klinteham, Gotland (89578, exchange); specimen of opal and a specimen of chrysoprase (91636, exchange); 50 Oligocene fossils from Germany (91676, exchange); 3 specimens of pickeringite (90063).

WARNER, R. S., Huntsville, Tex.: 5 plants (88459).

WARREN, J. G. H. (See under Robert Stephenson & Co., (Ltd.).)

WARREN, Miss MARY LEE, Louisville, Ky.: Shell from Sanibel Island, Florida (90858).

WASHINGTON, Dr. H. S., Washington, D. C.: 2 ancient Carthaginian funeral vases from near the supposed site of Punic Carthage, and containing some bones and ashes of human cremations (90776).

WASHINGTON, UNIVERSITY OF, Seattle, Wash. (through Prof. R. C. Miller): 2 specimens of fly (88202).

WATKINS, J. T., Lakeport, Calif.: A cone of the digger pine and 3 cones of the Douglas fir from Lake County, Calif. (91888).

WATKINS, W. N., Washington, D. C.: Wood specimens of yellow birch, curly chestnut, sassafras, and ailanthus (92199).

WEGENER, H. M., Los Angeles, Calif.: 2 specimens of cacti, also 2 specimens and 4 photographs of plants (89720, 89800). Exchange.

WEISS & DOWNS, New York City: 4 samples of chemicals derived synthetically from benzene and a specimen of the catalyst used in the process of manufacture (89535).

WELLS, WAYNE W., Seattle, Wash.: 15 crabs from Washington (88993).

WENDLER, C., Geneva, Switzerland: Example of the Cangas de Onis, Oviedo, Spain, meteoric stone (89790); 2 examples of the Bur-Gheluai meteorite (91980). Exchange.

WEST COAST LUMBERMEN'S ASSOCIATION (INC.), Seattle, Wash.: 2 large specimen boards of western hemlock (89613).

WEST, HUGH WARREN, Prescott, Ariz.: Beetle (88789).

WEST, Dr. WILLIAM, New York City (through Dr. Riley D. Moore): Small model of a gravitiser, for inclusion in the osteopathic exhibit (92249).

WESTERN PINE MANUFACTURERS ASSOCIATION, Portland, Oreg.: 2 specimen boards of western pine (89479).

WESTON, FRANCIS M. (See under Robert J. Brockett, jr.).

WETMORE, Dr. A., United States National Museum: Skin of Henslow's sparrow and 2 bats (88109); 2 skulls of a ruffed grouse and humerus of a Canada goose from Massachusetts (89317); 12 photographs and a catalogue of additional photographs of noted Sioux Indians (90888); 3 examples of fishes from Goose Creek headwaters, 2 miles north of Markham, Va. (90366); specimen of yellow palm warbler (91430); skeleton of a tree sparrow from Maryland (92242).

WETMORE, Mrs. T. E., Kingsville, Ohio: Silk crêpe embroidered shawl approximately 100 years old (89329).

WHEELER, ALVIN SAWYER, Chapel Hill, N. C.: 12 chemical specimens for the Loeb collection of chemical types (91666).

WHELPLEY, Dr. H. M. (See under United States Pharmacopoeial Convention, Inc.)

WHERRY, Dr. EDGAR T., Washington, D. C.: Specimen of cactus from West Virginia (89002); plant and 5 photographs (88177); 8 plants

WHERRY, Dr. EDGAR T.—Continued. (88696, 90877); a described specimen of white chlorite from Sylmar, Pa. (89008); 12 ferns from the southeastern United States (89538); fern from Maryland (89782); 3 plants and 2 photographs of the same from Texas (90410). (See also under Fred W. Gray.)

WHITE, C. E., Los Angeles, Calif.: Shell from Point Lobos, at the southern entrance to Monterey Bay, Calif. (88087).

WHITE HOUSE, THE, Washington, D. C.: Mounted elk head (90522). Deposit.

WHITMAN, ST. CLAIR, Cedar Keys, Fla.: 2 dried fishes (91336).

WHITTLE, B. H., Hobart, Tasmania: 51 stone implements from Tasmania (90135). Exchange.

WILCOX, Gen. T. E., United States Army (retired), Washington, D. C.: Plant from New York (88206).

WILLARD, Mrs. JOHN, Elizabethtown, N. Y. (through Dr. Charles F. Langworthy): Woman's organdie dress and accessories and 3 infant's dresses of the latter part of the nineteenth century (18 specimens) (89837).

WILLETT, G., CRAIG, Prince of Wales Island, Alaska: A small collection of invertebrates from the Middle Paleozoic rocks of Alaska (88510); 18 marine shells from Alaska (90788).

WILSON, Master JACK, Washington, D. C.: 2 stone arrowheads found near Glen Echo, Maryland (91899).

WILSON, JAMES FRANK, Kensington, Md.: Statuette of Eros and Psyche sculptured in alabaster (88234); collection of photographs, engravings, etchings, lithographs, wood engravings, and photomechanical prints, comprising 192 specimens (91713).

(See also under Dr. Thomas Wilson.)

WILSON, SAMUEL E., (See under Nai Hsuan Wu.)

WILSON, Dr. THOMAS (though J. Frank Wilson, Kensington, Md.): Book entitled "The Turner Gallery," by R. N. Wornum, containing 60 engravings, 6 sixteenth century drawings, and 7 watercolors (91712).

WINKEL, L. A., Ypsilanti, Mich.; Chinese flag flown in Peking during the Boxer rebellion in 1900 (88105).

WINKLER, JOHN W., Paris, France: 60 etchings for special exhibition (90726, loan).

WINSLOW, ROLLIN, United States consul, Soerebaya, Java (through Dr. A. Hrdlička): Madurese palm-leaf book containing teachings from the life of Mohammed (89719); 2 pieces of fossil wood, a number of sandstone concretions and a small slab of hardwood from the island of Borneo (89480).

WITHERS, T. H. (See under Dr. C. T. Trechmann.)

WITHYCOMBE, C. L., Trinidad, British West Indies: 11 specimens, 5 species, of bugs (89742). Exchange.

WOLCOTT, GEORGE N., San Juan, P. R.: 6 flies (90504).

WOOD Dr. CASEY A.: 32 birds and 2 bird skins from Ceylon (88065, 90811); 20 birds from the Fiji Islands (88782, 92273).

(See also under H. W. S. Mitchell.)

WOOD, NORMAN A. (See under Michigan, University of.)

WOODRING, Dr. W. P. (See under Dr. H. G. Kugler.)

WORMSER, MORITZ. (See under American Numismatic Association.)

WORTMANN, ANTON, Hartington, Nebr.: Part of a right lower jaw of an extinct species of the cat family (88715).

WRIGHT, Mrs. F. B., East Falls Church, Va.: Olive-backed thrush (92253).

WRIGHT, Dr. STILLMAN, Madison, Wis.: 20 specimens of fresh-water copepods from North and South America, including the types of 7 new species and 1 new subspecies (91750).

WU, CHENFU F. (See under Soochow University.)

WU, NAI HSUAN, Taiku, Shansi, China (through Samuel E. Wilson, Oberlin, Ohio): Bronze vase of the Chow dynasty (1122–225 B. C.) (91832).

WYATT, ALEXANDER K., and Emil Beer, Chicago, Ill.: 4 specimens of moths (90485).

YALE UNIVERSITY, School of Forestry, New Haven, Conn. (through Prof. Samuel J. Record): 29 plants from British Honduras and Guatemala (88482, 91294) exchange; 228 plants from Guatemala, British Honduras, and Central America (91324, 91829).

YARBROUGH, Dr. W. F., Miccosukee, Fla.: lot of roughly chipped chert blades found in 1915 in Miccosukee (91752).

YOUNG, G. W., Cartersville, Ga.: 2 specimens of insect larvae (88773).

YOUNG, Prof. M. W. (See under Marine fish hatchery and biological station, Dunedin, New Zealand.)

ZEMSKE MUSEUM, Sarajevo, Jugoslavia, department of anthropology: Cast of an ancient skull (90867).

ZOOLOGICAL MUSEUM OF THE ACADEMY OF SCIENCES, Leningrad, Union of Socialistic Soviet Republics: Skin of a bird (88562); (through Dr. Peter P. Sushkin) 18 lizards and 5 frogs from Eurasia (90608). Exchange.

ZOOLOGISCHES MUSEUM DER UNIVERSITAT, Berlin, Germany (through Dr. Erwin Stresemann): 4 birds from New Guinea (90935). Exchange.

ZUNDEL, GEORGE L., Pullman, Wash.; 3 plants (92319).

LIST OF PUBLICATIONS ISSUED BY THE UNITED STATES NATIONAL MUSEUM DURING THE FISCAL YEAR 1925–26

REPORT

Report on the progress and condition of the United States National Museum for the year ending June 30, 1925.

8vo., pp. i–ix, 1–206, frontispiece.

PROCEEDINGS

Proceedings of the United States National Museum. Volume 65.

8vo., pp. i–xii, 1–655, arts. 1–24, pls. 1–44, 325 figs.

Proceedings of the United States National Museum. Volume 66.

8vo., pp. i–xviii, 1–766, arts. 1–35, pls. 1–103, 65 figs.

BULLETINS

No. 131. The Minerals of Idaho. By Earl V. Shannon.

8vo., pp. i–vii, 1–483, pls. 1–19, 170 figs.

No. 132. Revision of the North American moths of the subfamilies Laspeyresiinae and Olethreutinae. By Carl Heinrich.

8vo., pp. i–v, 1–216, pls. 1–76.

No. 133. Observations on the birds of Argentina, Paraguay, Uruguay, and Chile. By Alexander Wetmore.

8vo., pp. i–iv, 1–448, pls. 1–20.

CONTRIBUTIONS FROM THE UNITED STATES NATIONAL HERBARIUM

Vol. 20. Systematic studies of American plants.

8vo., pp. i–xv, 1–605, pls. 1–51, 70 figs.

Vol. 25. Flora of Utah and Nevada. By Ivar Tidestrom.

8vo., pp. 1–665, pls. 1–15, 2 figs., map.

PAPERS PUBLISHED IN SEPARATE FORM

FROM THE BULLETINS

From No. 100. Contributions to the biology of the Philippine Archipelago and adjacent regions.

Volume 2, Part 4. Silicious and horny sponges collected by the United States Fisheries steamer *Albatross* during the Philippine Expedition, 1907–10. By H. V. Wilson. 8vo., pp. i–vii, 273–532, pls. 37–52.

From Volume 22. Contributions from the United States National Herbarium.

Part 9. Studies in American Phaseolineae. By C. V. Piper. 8vo., pp. i–viii, 663–701, pl. 64.

From Volume 24. Contributions from the United States National Herbarium.

Part 6. A bibliographic study of Beauvois' Agrostographie. By Cornelia D. Niles. With introduction and botanical notes. By Agnes Chase. 8vo., pp. i–xix, 135–214.

Part 7. The North American species of Stipa. Synopsis of the South American species of Stipa. By A. S. Hitchcock. 8vo., pp. i–xi, 215–289, pls., 50–52.

FROM VOLUME 66 OF THE PROCEEDINGS

No. 2554. Illustrations of unfigured types of shells in the collection of the United States National Museum. By William Healey Dall. Art. 17, pp. 1–41, pls. 1–36.

No. 2559. Miocene gastropods and scaphopods from Trinidad, British West Indies. By Wendell C. Mansfield. Art. 22, pp. 1–65, pls. 1–10.

No. 2562. Chinese amphibians and reptiles in the United States National Museum. By Leonhard Stejneger. Art. 25, pp. 1–115, figs. 1–6.

No. 2570. Notes on the fishes of Hawaii with descriptions of six new species. By Eric Knight Jordan. Art. 33, pp. 1–43, pls. 1–2.

FROM VOLUME 67 OF THE PROCEEDINGS

No. 2581. Unusual forms of fossil crinoids. By Frank Springer. Art. 9, pp. 1–137, pls. 1–26, figs. 1–9.

No. 2582. The Indian medical exhibit of the division of medicine in the United States National Museum. By Charles Whitebread. Art. 10, pp. 1–26, pls. 1, 2, figs. 1–20.

No. 2591. The adaptive modifications and the taxonomic value of the tongue in birds. By Leon L. Gardner. Art. 19, pp. 1–49, pls. 1–16.

No. 2592. A revision of the insects of the aphid genus Amphorophora. By Preston W. Mason. Art. 20, pp. 1–92, pls. 1–18.

No. 2593. Studies on the cyclostomatous bryozoa. By Ferdinand Canu and Ray S. Bassler. Art. 21, pp. 1–124, pls. 1–31, figs. 1–46.

No. 2594. Three new land shells from Mexico. By Paul Bartsch. Art. 22, pp. 1–5, pl. 1.

No. 2595. Ten new North American Ichneumon-flies. By R. A. Cushman. Art. 23, pp. 1–13.

No. 2596. South American snakes in the collection of the United States National Museum. By Afranio do Amaral. Art. 24, pp. 1–30.

No. 2597. Foraminifera of the genera Siphogenerina and Pavonina. By Joseph A. Cushman. Art. 25, pp. 1–24, pls. 1–6.

No. 2598. A new species of hookworm from a North American raccoon. By Benjamin Schwartz. Art. 26, pp. 1–4, figs. 1–4.

No. 2599. Asymmetry in the skulls of mammals. By A. Brazier Howell. Art. 27, pp. 1–18, pls. 1–8.

No. 2600. Supplementary observations on the skull of the fossil porpoise Zarhachis flagellator Cope. By Remington Kellogg. Art. 28, pp. 1–18, pls. 1–5.

No. 2601. A list of the annelids collected by Captain R. A. Bartlett in Alaska, 1924, with description of a new species. By A. L. Treadwell. Art. 29, pp. 1–3, figs. 1–4.

FROM VOLUME 68 OF THE PROCEEDINGS

No. 2602. Tertiary insects from Argentina. By T. D. A. Cockerell. Art. 1, pp. 1–5, pl. 1, fig. 1.

No. 2603. Descriptions of new internal parasites. By Edward A. Chapin. Art. 2, pp. 1–4, figs. 1–4.

No. 2604. Systematic notes on and descriptions of North American wasps of the subfamily Brachycistinae. By J. R. Malloch. Art. 3, pp. 1–28, pls. 1–4.

No. 2605. Crane flies from the Maritime Province of Siberia. (On the insect fauna of the Maritime Province of Siberia.) By Charles P. Alexander. Art. 4, pp. 1–21, pl. 1.

No. 2606. Tertiary insects from Kudia river, Maritime Province, Siberia. (On the insect fauna of the Maritime Province of Siberia.) By T. D. A. Cockerell. Art 5, pp. 1–16, pl. 1–2, figs. 1–5.

No. 2607. Some halictine bees from the Maritime Province of Siberia. (On the insect fauna of the Maritime Province of Siberia.) By T. D. A. Cockerell. Art. 6, pp. 1–12.

No. 2608. Buprestid beetles from the Maritime Province of Siberia. (On the insect fauna of the Maritime Province of Siberia.) By W. S. Fisher. Art. 7, pp. 1–8.

No. 2609. Sawflies from the Maritime Province of Siberia. (On the insect fauna of the Maritime Province of Siberia.) By S. A. Rohwer. Art. 8, pp. 1–12.

No. 2610. North American species of two-winged flies belonging to the tribe Miltogrammini. By Harry W. Allen. Art 9, pp. 1–106, pls. 1–5, figs. 1, 2.

No. 2611. Field notes on gall-inhabiting cynipid wasps with descriptions of new species. By Lewis H. Weld. Art. 10, pp. 1–131, pls. 1–8.

No. 2612. New fossil fresh-water mollusks from Florida. By William B. Marshall. Art 11, pp. 1–4, pl. 1.

No. 2613. A classification of the tooth-like fossils, conodonts, with descriptions of American Devonian and Mississippian species. By E. O. Ulrich and R. S. Bassler. Art 12, pp. 1–63, pls. 1–11, figs. 1–5.

No. 2614. Parasitic nematodes from China. By Benjamin Schwartz. Art. 13, pp. 1–10, figs. 1–3.

No. 2615. Termites collected on the Mulford Biological Exploration to the Amazon Basin, 1921–1922. By Thomas E. Snyder. Art. 14, pp. 1–76, pls. 1–3, figs. 1–3.

No. 2616. A new nematode from the rat and its life history. By Eloise B. Cram. Art. 15, pp. 1–7, pls. 1, 2.

No. 2617. The nearctic budworms of the lepidopterous genus Heliothis. By S. E. Crumb. Art. 16, pp. 1–8, pl. 1.

No. 2618. The minerals of Obsidian Cliff, Yellowstone National Park, and their origin. By William F. Foshag. Art. 17, pp. 1–18, pls. 1–4, figs. 1–5.

No. 2619. Revision of the American leaf hoppers of the jassid genus Typhlocyba. By W. L. McAtee. Art. 18, pp. 1–47, pls. 1–6.

No. 2620. A revision of the American lice of the genus Pediculus, together with a consideration of the significance of their geographical and host distribution. By H. E. Ewing. Art. 19, pp. 1–30, pls. 1–3, figs. 1–8.

No. 2621. A new genus and species of borborid flies from South America. By Mario Bezzi. Art. 20, pp. 1–6, figs. 1, 2,

No. 2622. New genera and species of acalyptrate flies in the United States National Museum. By J. R. Malloch. Art. 21, pp. 1–35, pls. 1, 2.

No. 2623. Descriptions of new West Indian longicorn beetles of the subfamily Lamiinae. By Warren S. Fisher. Art. 22, pp. 1–40.

No. 2624. North American two-winged flies of the genus Cylindromyia Meigen (Ocyptera of authors). By J. M. Aldrich. Art. 23, pp. 1–27, pl. 1.

No. 2625. A collection of Pleistocene vertebrates from southwestern Texas. By Oliver P. Hay. Art. 24, pp. 1–18, pls. 1–8, figs. 1, 2.

No. 2626. Amphipods of the family Bateidae in the collection of the United States National Museum. By Clarence R. Shoemaker. Art. 25, pp. 1–26, figs. 1–16.

FROM VOLUME 69 OF THE PROCEEDINGS

No. 2627. A new species of fluke, Parametorchis noveboracensis, from the cat in the United States. By See-Lu Hung. Art. 1, pp. 1, 2, fig. 1.

No. 2628. The optical properties and chemical composition of glauconite. By Clarence S. Ross. Art. 2, pp. 1–15, figs. 1, 2.

No. 2629. Miscellaneous new chalcid flies of the hymenopterous family Encyrtidae. By P. H. Timberlake. Art. 3, pp. 1–34, pls. 1, 2, fig. 1.

LIST OF PAPERS BASED WHOLLY OR IN PART ON THE COLLECTIONS IN THE UNITED STATES NATIONAL MUSEUM, PUBLISHED BY THE MUSEUM AND ELSEWHERE DURING THE FISCAL YEAR 1925–26

Aldrich, J. M.

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